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U.S. DEPARTMENT OF THE INTERIOR

PROTOTYPE OIL SHALE LEASING PROGRAM

TRACT C-b

QUARTERLY REPORT #2

(Through February 28, 1975)

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APRIL 14, 1975

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QUARTERLY REPORT #2

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E G & G Upper Air Data (Ref 5)

EG&G
ENVIRONMENTAL CONSULTANTS

AL-EC-117
14 MARCH 1975

UPPER AIR STUDIES OVER FEDERAL OIL SHALE TRACT C-b DURING WINTER 1975

PREPARED FOR

THE C-b SHALE OIL PROJECT

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1.0 INTRODUCTION

This report summarizes and presents upper air meteorological data taken over Federal Oil Shale Tract C-b during the period 20 January through 9 February 1975. The studies to acquire winds aloft from the surface to 6,000 feet and temperature profiles over the same height interval were performed by EG&G for the C-b Shale Oil Project.

The purpose of these studies was to investigate the temperature and wind structure of the atmosphere over Tract C-b as a function of season. The ultimate use of this data will be for inclusion into modeling studies to predict the environmental impact of future oil shale developments.

Attempts were made to obtain 15 days of soundings with four per day. As long as at least two (down into the valley below the tract) were performed, the day was considered successful.

1.1 BRIEF SUMMARY

A brief summary of the most noteworthy points found in the data is presented here. For a more complete description of the processes involved and a more extensive summary, the reader is referred to EG&G Report No. AL-EC-116, 14 March 1975, "Upper Air Comparison Studies for Winter 1975 between Federal Oil Shale Tracts C-a and C-b and Grand Junction, Colorado."

The topography of the Federal Oil Shale Tract C-b is complex. The wind structure above the tract depends heavily upon the upper (500 mb) level flows as well as the detailed surface topography. In general, the upper level winds are from the west, although during the study period, the winds ranged from throughout all sectors. In addition, wind speeds during the early morning hours were significantly smaller and less gusty than during the remainder of the day.

The temperature structure above the tract followed the dry adiabatic lapse rate very well above 1,500 feet above the surface on clear days. On moist days (with showers or snow squalls in the area) the temperature structure showed more of a wet adiabatic behavior. The lower 1,500 feet above the surface showed a somewhat more complex profile with inversions in the morning hours which generally broke up by early afternoon. The temperature inversions were much more pronounced in the valleys below the tract. The average mixing layer depth in the presence of an inversion at the early morning sounding (about 05:00 MST) was about 1,200 feet. At about 08:00 MST, the average mixing layer depth in the presence of an inversion was about 860 feet. These values indicate that there is a significant difference in the mixing layer heights and intensities when an inversion is present compared with the Fall 1974 Upper Air Data (AL-ECP-74-107). Several flights flown to determine the horizontal temperature structure at constant altitude, but at varying height above the surface (dependent upon terrain), showed very little horizontal dependence; although the closest of these to the surface was not performed in the presence of an inversion. However, from the data collected from surface based measurements of the actual temperature, it is apparent that large horizontal temperature gradients can exist when a surface based vertical temperature inversion is present.

2.0 DATA ACQUISITION TECHNIQUES

2.1 TEMPERATURE PROFILES

The vertical temperature structure from the surface to 13,000 feet MSL was determined four times daily using a shielded sensitive thermistor mounted on a wing strut of a light aircraft which was flown out of Rifle, Colorado. The four flights were made at approximately 05:00, 08:00, 11:00, and 17:00 MST hours on days when the weather permitted safe flying. During daylight hours, soundings were made to within 100 feet of the surface; during night flights, 500 foot safety margins were observed. In addition, flights were made down nearby valleys to determine the temperature structure of the air actually below the proposed plant site on the 08:00 and 11:00 MST hour soundings.

The instrument used for the temperature recording was an EG&G portable temperature recorder Model 702 which is designed to achieve high-resolution temperature recording from a moving airplane or automobile.

The unit is capable of measuring temperatures in the range from -30° to +32°C with an absolute accuracy better than ±0.2°C, although for this operation, the unit was calibrated to within ±0.1°C. The specifications of the Model 702 are given in Table 1.

TABLE 1

Specifications:	
Sensor Probe:	
Type	Thermistor head in weatherproof radiation shield
Range	-30°C to +32°C in six ranges
Accuracy	±0.2°C absolute
Time Response	Less than 2 seconds for 63% recovery
Recorder:	
Resolution	.1°C
Process	Meter and permanent, inkless on pressure sensitive paper
Chart Speed	60 inches per hour
Chart Paper	63 feet by 2 5/16 inch usable width
Power	Nickel-cadmium batteries, 10-hour operation

The flight path of the aircraft was made as consistently as possible with a pre-established plan. The early morning sounding (05:00 MST) and later afternoon sounding (17:00 MST) started as close to the top of the Tract C-b meteorological tower as conditions would permit. If at all safely possible, a close fly-by of the tower top (200 feet above the surface) was made. This provided a check upon the aircraft altimeter which was used for height determination for the remainder of the flight. In all cases, over the entire course of the study period the altimeter indicated an elevation of 7,200 ±50 feet above MSL during the tower fly-by. The true tower top is 7,180 feet above MSL.

During the 08:00 and 11:00 MST soundings, the flight path called for a slow, gradual (approximately 10 ft/sec) climb from approximately 50 feet above the surface of the Piceance Creek (in the direction towards Tract C-b and the meteorological tower) to an actual top-of-tower fly-by. This, by necessity, required that the measurement of the temperature at a level comparable with the elevation of the base of the tower be made horizontally displaced from the tower itself. On a normal flight plan, the temperature measurement made at the level of the base of the tower was approximately 1 km to the North. Because of this, data below about 7,200 feet cannot accurately be termed "vertical" temperature soundings, even though the 10 feet/sec rate of ascent was maintained along the horizontal flight path. Once having made the tower fly-by to check the altimeter setting, the aircraft began its normal ascent to 13,000 feet in an approximately 1 km diameter spiral at an ascent rate of about 10 ft/sec. Altitude markings were made on the temperature chart in real time by an observer. While the pilot attempted to maintain a constant rate of ascent, this was not always possible due to turbulence. For this reason, temperature/altitude readings were taken from the charts only at points marked with a distinct altitude. No interpolations between markings were used.

2.2 WINDS ALOFT

The vertical wind structure from the surface to 13,000 feet MSL or cloud base was determined four times daily using 30 gram pilot balloons in conjunction with a theodolite. The theodolite was aligned to magnetic north and then corrected to true north by rotating it 15° counter-clockwise. The balloons were carefully "weighed off" using a standard National Weather Service inflation kit for 30 gram balloons inside an enclosed area to rule out any influence which wind might cause and released approximately 800 meters northwest of the main meteorological tower on Tract C-b. These balloons rise at an approximately constant rate of 600 feet per minute (Reference 3). During night operations, small water activated batteries connected to a tungsten filament bulb were attached to the balloon before it was "weighed off" to allow optical tracking.

The balloons were released at 05:00, 08:00, 11:00, and 17:00 hours MST on days in which temperature soundings were made. At 30-second intervals, azimuth and elevation were vocally recorded to within 0.1 degree, although interpolations were attempted to within 0.02 degree. The balloons were kept in the field of view at all times and only after the sounding was completed were the voice records transcribed to data sheets.

3.0 DATA PRESENTATION

During the course of the 21-day study period, soundings over the oil shale tract were aborted on six days due to inclement weather causing dangerous flying conditions. A general description of the weather conditions for the 21 day period encompassing the 15 days of successful data collection is given in Table 2.

The release times of the pilot balloons (pibals) and the temperature sounding times along with the heights attained by the balloons and the surface temperatures are presented in Table 3.

TABLE 2

WEATHER CONDITION LOG

Date	Conditions
1/20/75	05:00 sounding cancelled due to poor flying conditions. After sunrise, few high alto cirrus until noon, turning to stratus with high gusty winds from southwest as storm front moved into the region.
1/21/75	Two-inch snow accumulation, high winds, poor visibility as snow passed through region all flights cancelled.
1/22/75	Instrumentation problems with temperature recorder - repaired and recalibrated; no soundings. Weather clear, light winds, few high cirrus.
1/23/75	Ceiling at 05:00 MST was 12,000 (snow). Alto-stratus over entire Piceance Creek region, ceiling 12,000 to 13,000 at 08:00 MST. Alto-stratus (20 to 30%) at about 14,000 for remainder of day.
1/24/75	Light cloudiness through noon. Surface winds became gusty and strong in the afternoon about 14:00 MST bringing small snow storms through the area. Completely overcast at 17:00 MST and scattered light snow showers.
1/25/75	Heavy cloud cover (less than 9500) over Rifle forced 05:00 MST sounding cancellation. Cloud base lifting to 14,000 with 50 to 60% cover by 08:00 MST. Very strong winds from northwest for remainder of the day.
1/26/75	High winds throughout day. Some light alto-cirrus during the morning, clear in the afternoon. Surface winds from southwest gusting to 40 mph.
1/27/75	Complex weather picture, including Pacific Northwest front and cold Canadian air mass moved into area during the night. Completely overcast with snow showers in the area. All soundings cancelled.
1/28/75	Weather pattern remained over area. Severe turbulence, low ceiling, snow and freezing rain forced cancellation of all soundings. Accumulation throughout two day period of 6 to 8 inches of new snow.

TABLE 2 (Cont'd)

Date	Conditions
1/29/75	Clear and extremely cold in the morning with intense low surface inversions. Another weak short wave impulse moved into the region in late afternoon bringing low clouds obscuring wind soundings.
1/30/75	Snow throughout entire 24-hour period. Local accumulation of four to five inches. Scattered snows began clearing in early evening. No soundings.
1/31/75	Heavily overcast in Rifle from 05:00 through 10:00 MST. Clear over tracts in Piceance Creek Basin. Temperature soundings cancelled at 05:00 and 08:00 MST due to poor conditions at airport. Late afternoon cloudiness developed bringing scattered snow storms.
2/1/75	Snow over Piceance Creek area at 05:00 MST, sounding cancelled. Clearing to partly cloudy at 08:00 MST over sites (1" accumulation), although high winds and clouds persisted until midafternoon.
2/2/75	Extremely clear all day; moderate southwest winds.
2/3/75	Clear through midmorning. High cirro-stratus formed by 12:00 MST continuing to become completely overcast by 17:00. Light surface winds throughout the day.
2/4/75	Moderate winds throughout entire day; approximately 30 to 40% cloud cover (alto-cirrus) until early evening with an increase in cloudiness and widely scattered light snowfall. Late afternoon sounding (17:00) cancelled.
2/5/75	High winds and scattered snowfall during the night. Heavy cloud cover and severe turbulence forced cancellation of all soundings.
2/6/75	Early morning cloudiness (moderate winds) with isolated snowfall becoming partly cloudy by mid-morning. Calm surface conditions and weather clear throughout afternoon.
2/7/75	05:00 and 08:00 MST soundings cancelled due to low clouds (9500 ft) and poor visibility in the Rifle area. Scattered snowfalls in the area. Clearing to 50% cover by noon with high winds.

TABLE 2 (Cont'd)

Date	Conditions
2/8/75	High cirrus accompanied with high winds throughout morning. Alto-stratus at about 12,000 MSL moved into area in mid-afternoon with no precipitation.
2/9/75	Severe turbulence with a 12,000 foot ceiling until noon. Scattered snowfall (moderate to heavy) in the area. Ceiling lowering with more intense snowfall combined to cancel 11:00 and 17:00 MST soundings.

TRACT C-b

TABLE 3

DATE	FLIGHT NUMBER	TIME OF PIBAL RELEASE	TIME OF TEMPERATURE SOUNDING	PIBAL HEIGHT	SURFACE TEMP (^{0}C)
1/20/75	1	msg	NA	msg	msg
	2	08:05	08:50	4200	-4.0
	3	11:16	11:41	5400	2.5
	4	17:06	17:51	6000	0.3
1/23/75	1	05:02	05:45	6000	msg
	2	08:27	08:38	3600	-2.6
	3	11:00	11:50	6000	2.8
	4	17:23	17:10	6000	2.9
1/24/75	1	05:10	05:36	6000	-2.2
	2	08:00	08:20	6000	-3.1
	3	11:02	11:28	6000	2.4
	4	16:49	17:14	5400	msg
1/25/75	1	NA	NA	NA	NA
	2	08:00	08:38	6000	2.2
	3	11:00	11:44	6000	7.3
	4	17:00	17:22	6000	7.8
1/26/75	1	msg	05:27	msg	2.2
	2	08:15	08:46	3000	4.2
	3	msg	11:26	msg	6.9
	4	16.50	17:26	4200	5.0
1/29/75	1	05:02	05:25	6000	-13.3
	2	08:02	08:20	6000	-9.6
	3	11:00	11:30	6000	-2.5
	4	17:10	17:20	4200	-3.1
1/31/75	1	NA	NA	NA	NA
	2	07:55	NA	5400	-5.7
	3	10:55	11:20	6000	-1.9
	4	msg	17:21	msg	msg
2/1/75	1	05:12	NA	3000	-3.9
	2	08:20	08:31	6000	-3.6
	3	10:56	11:35	6000	-0.6
	4	17:53	17:16	6000	-1.7
2/2/75	1	05:20	05:34	6000	-7.0
	2	07:53	08:30	4200	-5.6
	3	11:00	11:27	6000	1.7
	4	16:47	17:12	6000	0.2
2/3/75	1	05:12	05:23	6000	-5.2
	2	08:03	08:16	6000	-4.4
	3	11:00	11:23	6000	0.8
	4	16:47	17:07	6000	2.2
2/4/75	1	05:09	05:24	6000	-6.9
	2	07:57	08:21	5400	-5.0
	3	10:52	11:30	6000	-1.4
	4	16:50	NA	5400	-2.5
2/6/75	1	05:20	06:28	4800	-20.0
	2	msg	08:23	msg	msg
	3	11:10	11:19	6000	-5.1
	4	16:59	17:15	6000	-6.9
2/7/75	1	NA	NA	NA	NA
	2	08:40	NA	4800	-4.7
	3	11:01	11:38	3600	-1.7
	4	16:55	17:18	6000	-1.9
2/8/75	1	05:01	06:01	4800	-3.3
	2	08:10	08:27	4800	-1.1
	3	10:50	11:41	4200	1.7
	4	16:57	17:18	5400	2.8
2/9/75	1	05:03	06:05	6000	2.8
	2	08:25	08:10	4200	0.8
	3	11:00	NA	2400	3.06
	4	NA	NA	NA	NA

A summary of all pibal measurements taken over the study period and the resultant calculated upper air velocities (mph) and directions (heading in degrees) is given in Appendix A. Each sighting is listed and the height and horizontal coordinates (x and y corresponding to the distances in the east and north directions, respectively) are calculated assuming a 600 feet/minute constant rate of rise. Between each sighting a median height, velocity and direction is listed. These values were calculated from the prior and subsequent sighting data. A value of 999.0 indicates that a particular data point was missing.

The data in Appendix A were plotted in polar form to give a qualitative and quantitative means of viewing the data. These polar plots are presented in Appendix C. Each sounding has a corresponding polar plot. The points indicate the balloon position at a particular sighting. The numbers alongside the points represent the calculated height of the balloon at that point in hundreds of feet. Other non-labeled heights can be determined by remembering each continuous point is 300 feet vertically displaced from its neighbors. Where data was missing, points were not plotted, but the line was interrupted to denote that data was missing.

In general, there is good agreement between pibal soundings made at different times of the day. The general clockwise turning of direction with height (Ekman effect) is readily apparent. Most soundings show this expected simple behavior, however, several exhibit complex structure having no easy explanation (e.g., Figure C-12). Another outstanding feature of the sounding plots is the directionality. All upper level winds (above about 3,000 feet from the surface) are entirely from the west hemi-circle, with the greatest majority of them being from southwest through northwest.

A summary of all temperature soundings is given in Appendix B. Each sounding on a particular day is plotted alongside any other soundings on that day. Soundings were extended down nearby valleys during the daylight hours and when weather permitted, to investigate the temperature structure of the air masses below the level of the proposed plant site (see Section 2.1).

These soundings revealed the fact that in most cases, when an inversion was present, the inversion intensity at the lower levels was much more severe than at the proposed plant altitude. Excellent examples of this type of behavior are shown in the temperature profiles taken at 08:38 on 23 January 1975 and 08:30, 2 February 1975, (Figure B-2 and B-9). Over the 15 days of data collection, nine of these days showed evidence of isothermal or inversion conditions. Although the Fall 1974 study showed a higher percentage of inversion based days, it should be pointed out here that only four of the 15 days of data collection were without snowfall in the area, indicating an extended period of generally unstable precipitative conditions.

The disconnected symbols plotted at the elevation of the base of the tower (7,000 feet) are the results of temperature measurements made with a sling psychrometer a few feet above the ground at the same time as the respective aircraft temperature soundings. These measurements show a large difference in a significant number of cases. The difference, in almost every case, indicates a colder surface temperature than the sounding temperature value at the absolute elevation of the surface based measurement; which is to be expected. When no inversion is present, or in the afternoon, the instantaneous surface measurements seem to agree more with the sounding measurements at the same elevation. Under the influence of an intense surface-based vertical temperature inversion, large horizontal temperature gradients can and do occur introducing the uncertainty into the measurement.

As a check upon the depth and extent of these types of situations, several special flights were made in the general area. The first of these was a dual sounding performed within 20 minutes of each other directly over the C-b meteorological tower at about 12:00 on 23 January 1975. The results of these measurements are shown in Figure 1. The flight plan took the aircraft up over C-b at 11:50 MST, then immediately back down (from 13,000 feet MS) at 12:00 MST. The similarity of the plots is apparent; even the small elevated inversion at about 11,000 feet MSL is easily discernible in both plots. In the 11:50 MST sounding, a weak and shallow inversion existed. When the

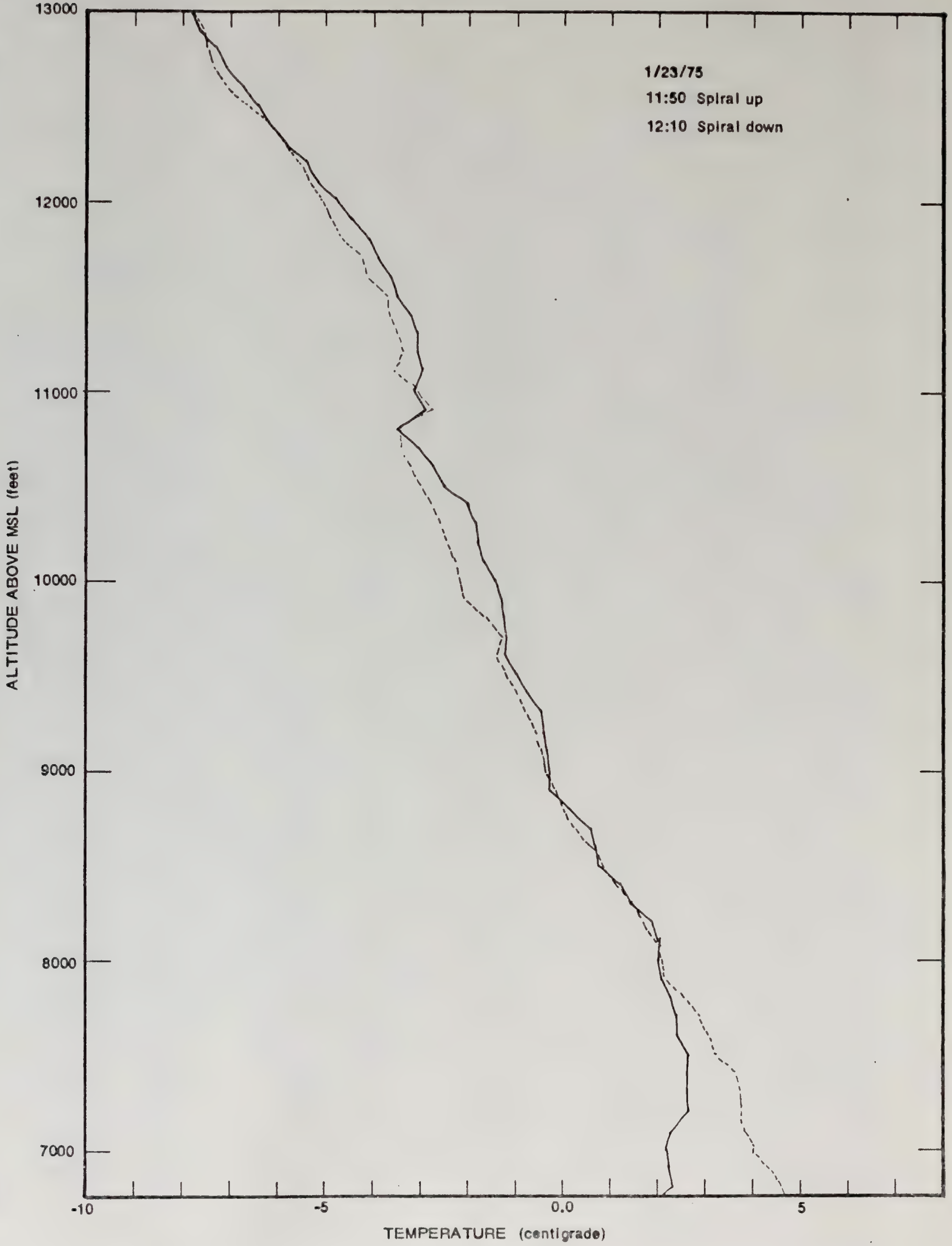

Figure 1 Dual Temperature Sounding Performed Over Tract C-b about 12:00 MST on 1/23/75

aircraft returned over the same locale on the descent phase of the 12:00 MST spiral downward, the inversion structure was not apparent. Although it is certainly possible, it seems unlikely that the inversion "burned off" in only 30 minutes. A more probable explanation of the discrepancy is that it arises from a slightly different flight path (different terrain below).

A second check flight called for a regular sounding up over Tract C-b and then down over the Rock School House (approximately 8 km North of C-b). The C-b sounding included the horizontal extent used for all 08:00 and 11:00 MST flights, whereas the Rock School sounding maintained an approximately 1 km diameter downward spiral. The results of these measurements are shown in Figure 2.

Two constant level-constant speed flights were made with and without an inversion present. The first of these is shown in Figure 3, with an inversion present below the top of the Tract (7,000 feet). This flight was made at 7,200 feet above MSL from over the Rock School House to the top of the 60 meter meteorological tower on Tract C-b at 09:12 MST. As can be seen from Figure B-9, an intense surface inversion existed in the Piceance Valley below about 7,000 feet MSL. The temperature during the horizontal check flight stayed within about 1° centigrade over the entire path. The second of the constant level flights (Figure 4) was made without a surface inversion present. The aircraft flew from the approximate head-water end of the Piceance Creek Valley to over the Rock School House while maintaining a 6,400 feet MSL altitude. Again in the case of no vertical inversion at the elevation of interest, the termperature changed less than about 1° centigrade over the entire path. These indicate that significant horizontal temperature gradients probably only exist when a surface based vertical inversion is present.

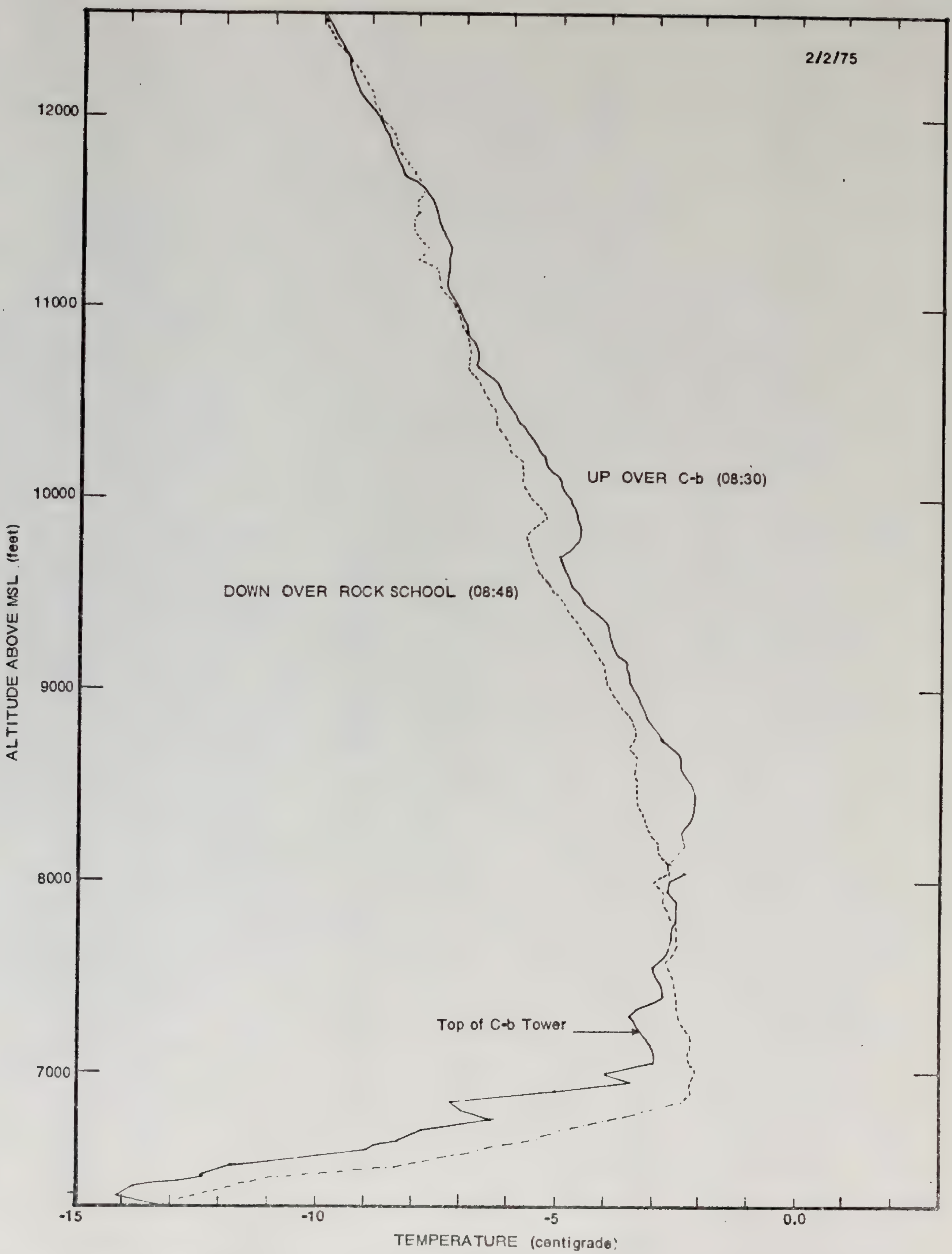

Figure 2 Dual Temperature Sounding Performed Up Over Tract C-b and Down Over the Rock School House 8 km to the North on 2/2/75

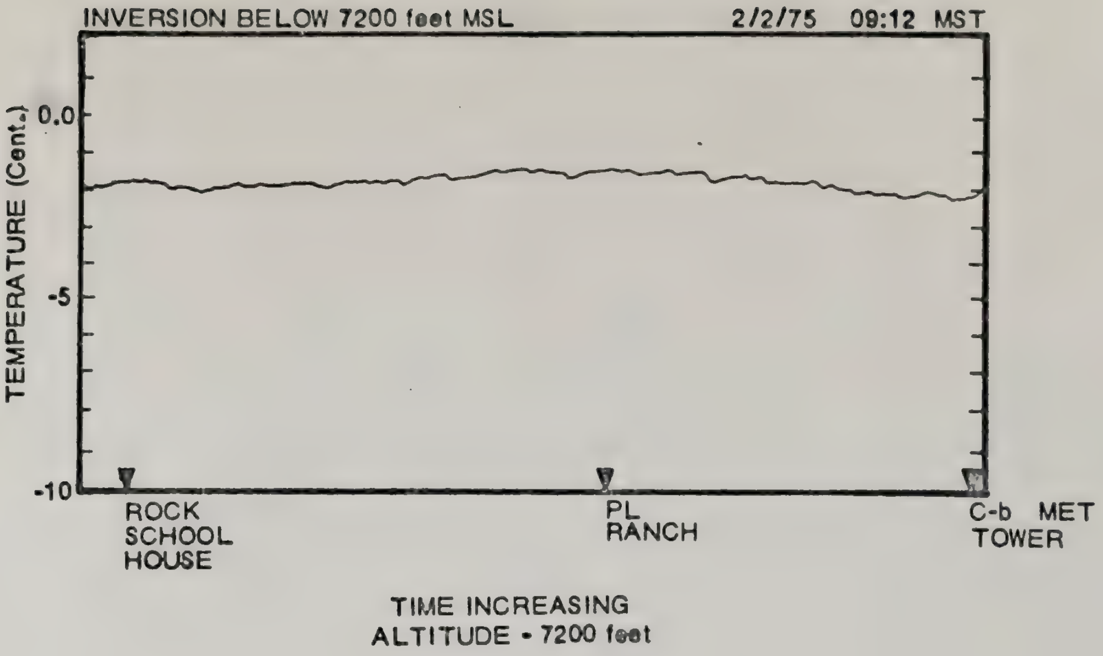

Figure 3. Horizontal Flight Across Piceance Creek from Rock School House to the C-b Met. Tower

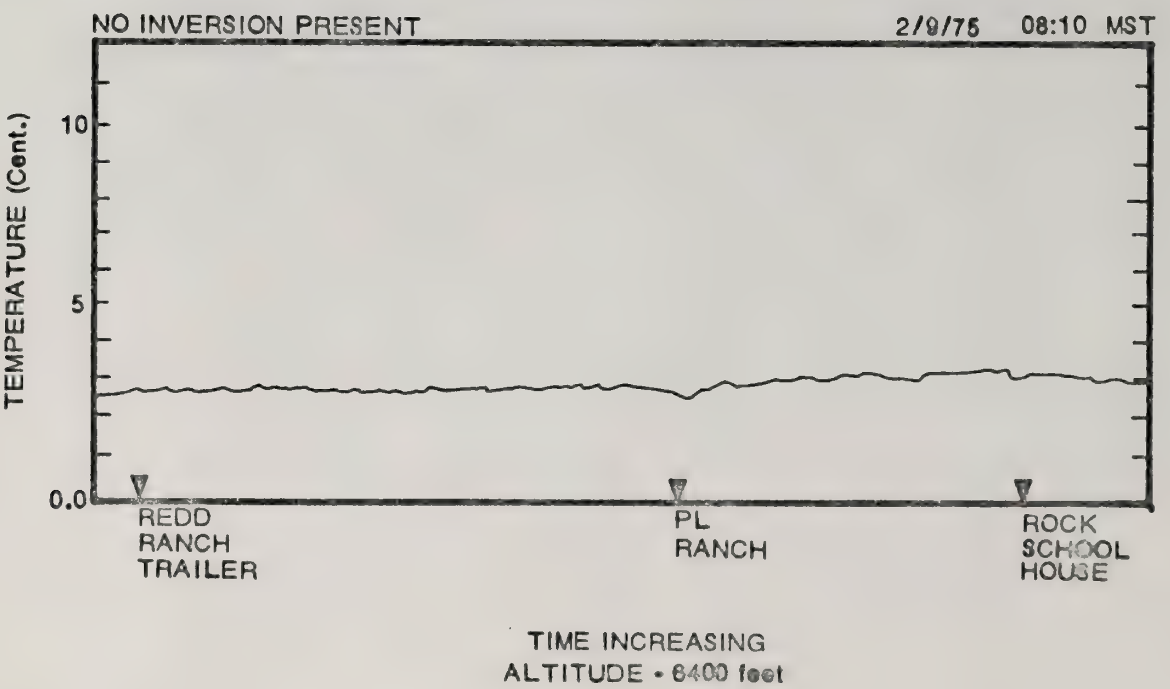

Figure 4. Horizontal Flight Up Piceance Creek Valley from Redd Ranch to the Rock School House

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1. EG&G Report #Al-EC-116, 14 March 1975: "Upper Air Comparison Studies for Winter 1975 Between Federal Oil Shale Tracts C-a and C-b and Grand Junction, Colorado."

2. EG&G Report #Al-ECP-74-107, 6 December 1974 "Upper Air Studies Over Federal Oil Shale Tract C-b During October 1974."

3. Hilfiker, Ronald C. "Meteorological Instrumentation in Air Pollution" National Technical Information Service PB 218 002, EPA.

APPENDIX A

Upper-Air Pilot Balloon Sounding Summaries Over Federal Oil Shale Tract C-b

During the Period 20 January to 9 February 1975

AZIMUTH	Horizontal angle to balloon in degrees clockwise from north at time of sighting
ELEVATION	Vertical angle to balloon in degrees from horizontal at time of sighting
HEIGHT	Vertical elevation in feet from release point to balloon at time of sighting
X	Calculated easterly distance in feet from release point to balloon at time of sighting
Y	Calculated northerly distance in feet from release point to balloon at time of sighting
HEIGHT	Interpolated height of balloon in feet above the surface
VELOCITY	Interpolated velocity of balloon in mph from prior and succeeding sightings
HEADING	Interpolated heading angle of balloon in degrees clockwise from north from prior and succeeding sightings

```
C-B 1/20/75              FLIGHT NO. 2  08:05
    TIME INTO  AZIMUTH   ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00     999.00     999.00      0.00      0.0     0.0
                                                                    150.00       7.41     26.04
       0.50      26.05      42.64    300.00    143.1   292.8
                                                                    450.00      16.32     37.76
       1.00      34.12      30.00    600.00    583.0   860.6
                                                                    750.00      21.14     56.74
       1.50      44.80      24.99    900.00   1360.7  1370.6
                                                                   1050.00      20.48     70.46
       2.00      52.90      23.42   1200.00   2209.8  1671.9
                                                                   1350.00      13.51     83.75
       2.50      58.21      24.48   1500.00   2800.5  1736.5
                                                                   1650.00      15.05     84.51
       3.00      62.53      24.78   1800.00   3459.9  1799.7
                                                                   1950.00      15.56     70.22
       3.50      63.68      24.64   2100.00   4104.2  2031.3
                                                                   2250.00      19.04     86.45
       4.00      67.15      24.12   2400.00   4940.2  2083.0
                                                                   2550.00      19.50     86.94
       4.50      69.85      23.62   2700.00   5797.0  2128.7
                                                                   2850.00      25.69     91.05
       5.00      73.09      22.51   3000.00   6927.0  2107.7
                                                                   3150.00      27.83     95.75
       5.50      76.32      21.49   3300.00   8145.3  1984.8
                                                                   3450.00      27.36    101.18
       6.00      79.38      20.78   3600.00   9326.0  1751.2
                                                                   3750.00      30.46    109.34
       6.50      82.98      20.08   3900.00  10590.7  1307.1
                                                                   4050.00      33.40    110.24
       7.00      86.20      19.30   4200.00  11969.2   798.4
```

```
C-B 1/20/75           FLIGHT NO. 3  11:16
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y          HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00     999.00    999.00     0.00      0.0     0.0
                                                                   150.00     11.66     26.04
       0.50      26.05     30.32   300.00    225.3   461.0
                                                                   450.00     14.61     37.36
       1.00      32.35     27.55   600.00    615.5   971.9
                                                                   750.00     20.89     50.57
       1.50      40.44     23.77   900.00   1325.6  1555.8
                                                                  1050.00     15.02     71.98
       2.00      48.00     24.53  1200.00   1954.2  1760.2
                                                                  1350.00      7.99     94.20
       2.50      53.05     27.48  1500.00   2304.9  1734.4
                                                                  1650.00      8.28    111.69
       3.00      58.83     30.23  1800.00   2643.3  1599.7
                                                                  1950.00     11.40    115.60
       3.50      65.94     31.78  2100.00   3095.5  1382.9
                                                                  2250.00     15.11    116.79
       4.00      73.65     31.98  2400.00   3689.0  1083.2
                                                                  2550.00     21.31    108.62
       4.50      80.30     30.18  2700.00   4577.3   783.7
                                                                  2850.00     25.89    107.37
       5.00      85.54     27.84  3000.00   5664.3   443.4
                                                                  3150.00     31.14    108.89
       5.50      90.02     25.37  3300.00   6960.7    -0.4
                                                                  3450.00     38.10    118.94
       6.00      95.52     23.04  3600.00   8427.4  -811.8
                                                                  3750.00     37.56    118.30
       6.50      99.19     21.29  3900.00   9882.3 -1595.5
                                                                  4050.00     38.04    119.74
       7.00     102.10     19.92  4200.00  11335.4 -2426.1
                                                                  4350.00     39.25    121.11
       7.50     104.54     18.78  4500.00  12813.7 -3318.7
                                                                  4650.00     42.07    123.57
       8.00     106.85     17.75  4800.00  14355.8 -4342.4
                                                                  4950.00     38.11    125.96
       8.50     108.75     17.09  5100.00  15712.9 -5327.5
                                                                  5250.00     37.14    131.82
       9.00     110.78     16.61  5400.00  16930.6 -6417.5
```

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C-B 1/20/75          FLIGHT NO. 4  17:06
   TIME INTO   AZIMUTH   ELEVATION   HEIGHT       X       Y          HEIGHT     VELOCITY   HEADING
    FLIGHT     -DEG. -    -DEG. -    -FEET-   -FEET- -FEET-          -FEET-     -MPH-      -DEG. -
   -MINUTES-
      0.00      999.00     999.00      0.00      0.0     0.0
                                                                    150.00      12.60      36.69
      0.50       36.70      28.43    300.00    331.2   444.4
                                                                    450.00      23.03      52.26
      1.00       46.78      21.11    600.00   1132.6  1064.7
                                                                    750.00      19.21      72.39
      1.50       55.75      21.00    900.00   1938.2  1320.2
                                                                   1050.00      24.87     120.23
      2.00       75.08      21.91   1200.00   2883.4   769.1
                                                                   1350.00      25.04      32.70
      2.50       64.02      21.19   1500.00   3478.6  1696.0
                                                                   1650.00      25.79     110.19
      3.00       74.00      20.85   1800.00   4543.7  1304.1
                                                                   1950.00      46.78     134.02
      3.50       91.22      19.22   2100.00   6023.5  -126.5
                                                                   2250.00      37.77     107.14
      4.00       94.65      17.45   2400.00   7611.6  -616.7
                                                                   2550.00      29.29     111.60
      4.50       97.08      16.92   2700.00   8810.1 -1091.4
                                                                   2850.00      57.20     105.48
      5.00       98.94      14.78   3000.00  11235.3 -1763.7
                                                                   3150.00      40.48     108.84
      5.50      100.28      14.11   3300.00  12920.7 -2339.0
                                                                   3450.00      42.75     110.26
      6.00      101.53      13.51   3600.00  14685.1 -2990.6
                                                                   3750.00      40.91     111.42
      6.50      102.59      13.10   3900.00  16360.7 -3648.2
                                                                   4050.00      44.61     112.03
      7.00      103.58      12.66   4200.00  18180.0 -4384.9
                                                                   4350.00      43.54     113.48
      7.50      104.50      12.33   4500.00  19937.0 -5148.7
                                                                   4650.00      43.55     112.47
      8.00      105.18      12.05   4800.00  21707.4 -5881.6
                                                                   4950.00      43.01     110.57
      8.50      105.60      11.82   5100.00  23479.0 -6546.6
                                                                   5250.00      43.62     109.96
      9.00      105.92      11.61   5400.00  25282.8 -7202.0
                                                                   5550.00      40.64     110.29
      9.50      106.20      11.48   5700.00  26960.1 -7822.4
                                                                   5850.00      39.14     117.47
     10.00      106.85      11.40   6000.00  28487.7 -8617.2
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C-[illegible]/23/75        FLIGHT NO. 1  05:02
TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y         HEIGHT    VELOCITY  HEADING
 FLIGHT    -DEG. -   -DEG. -   -FEET-  -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
-MINUTES-
   0.00     999.00    999.00      0.00     0.0     0.0
                                                             150.00      6.94    280.92
   0.50     281.00     44.50    300.00  -299.8    58.0
                                                             450.00      6.41    299.66
   1.00     290.00     46.00    600.00  -544.8   197.7
                                                             750.00      9.05    355.52
   1.50     316.00     47.40    900.00  -575.7   594.9
                                                            1050.00     15.04     34.32
   2.00     350.00     46.00   1200.00  -202.6  1141.3
                                                            1350.00     13.06     61.28
   2.50      12.00     46.00   1500.00   301.2  1417.3
                                                            1650.00     11.99     67.60
   3.00      26.00     45.00   1800.00   789.2  1618.4
                                                            1950.00      6.82     25.99
   3.50      26.00     45.00   2100.00   920.7  1888.1
                                                            2250.00      8.81     82.95
   4.00      34.00     45.80   2400.00  1305.3  1935.6
                                                            2550.00      8.22     77.69
   4.50      39.50     46.00   2700.00  1658.7  2012.7
                                                            2850.00     10.01     88.07
   5.00      46.00     45.80   3000.00  2098.9  2027.5
                                                            3150.00     13.13     98.63
   5.50      54.00     45.00   3300.00  2670.2  1940.7
                                                            3450.00     19.09     98.56
   6.00      62.60     42.40   3600.00  3500.8  1815.6
                                                            3750.00     20.68     93.20
   6.50      68.20     39.40   3900.00  4409.2  1764.7
                                                            4050.00     23.64     91.91
   7.00      72.40     36.31   4200.00  5448.9  1729.9
                                                            4350.00     17.81     71.55
   7.50      72.30     34.70   4500.00  6192.2  1977.8
                                                            4650.00     15.45     81.81
   8.00      73.20     33.80   4800.00  6865.3  2074.6
                                                            4950.00     20.42     89.49
   8.50      75.00     32.40   5100.00  7763.8  2082.4
                                                            5250.00     18.72     85.78
   9.00      76.00     31.40   5400.00  8585.3  2142.8
                                                            5550.00     15.55    121.56
   9.50      79.00     31.40   5700.00  9168.2  1784.6
                                                            5850.00     24.06     96.86
  10.00      80.80     30.10   6000.00 10219.3  1658.0
                                                            6150.00     17.93    116.50
  10.50      83.20     29.80   6300.00 10925.2  1305.8
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C-B 1/23/75            FLIGHT NO 2  08:27
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y          HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00      0.0     0.0
                                                                   150.00       0.77    300.21
       0.50    300.30     83.60    300.00    -29.1    17.0
                                                                   450.00       1.07    250.83
       1.00    271.20     83.00    600.00    -73.8     1.5
                                                                   750.00       0.78    246.05
       1.50    263.30     83.30    900.00   -105.2   -12.5
                                                                  1050.00       7.15      9.99
       2.00    350.40     75.90   1200.00    -50.7   297.5
                                                                  1350.00       4.21    328.40
       2.50    342.10     72.32   1500.00   -147.6   455.2
                                                                  1650.00       1.57    298.83
       3.00    337.00     73.58   1800.00   -208.0   488.5
                                                                  1950.00       2.68    167.94
       3.50    333.90     78.81   2100.00   -183.4   373.4
                                                                  2250.00       4.45    139.24
       4.00    346.19     84.50   2400.00    -55.6   225.0
                                                                  2550.00       4.97    164.38
       4.50     12.35     89.70   2700.00      3.2    14.6
                                                                  2850.00       8.32    130.47
       5.00    128.40     83.19   3000.00    281.5  -222.9
                                                                  3150.00      20.53    129.69
       5.50    129.35     69.08   3300.00    976.5  -800.0
                                                                  3450.00      36.19    127.43
       6.00    128.30     51.60   3600.00   2240.8 -1768.1
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C-B 1/23/75           FLIGHT NO. 3  11:00
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT       X       Y          HEIGHT     VELOCITY   HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-      -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00      0.0     0.0
                                                                  150.00       1.01      81.38
       0.50     81.40     81.55    300.00     44.1     6.7
                                                                  450.00       5.35      33.26
       1.00     40.42     66.00    600.00    173.3   203.5
                                                                  750.00      12.31      38.29
       1.50     39.00     48.06    900.00    509.0   628.7
                                                                 1050.00      12.02      40.51
       2.00     39.60     41.90   1200.00    852.6  1030.9
                                                                 1350.00      11.70      56.18
       2.50     44.19     39.24   1500.00   1280.3  1317.4
                                                                 1650.00       9.53      77.47
       3.00     50.20     39.30   1800.00   1689.8  1408.4
                                                                 1950.00      15.26      79.25
       3.50     56.88     36.82   2100.00   2349.6  1533.5
                                                                 2250.00      16.20      97.62
       4.00     64.80     35.40   2400.00   3056.2  1438.9
                                                                 2550.00      14.08      91.47
       4.50     68.85     34.42   2700.00   3675.4  1422.9
                                                                 2850.00      15.92      89.57
       5.00     71.94     33.10   3000.00   4376.0  1428.1
                                                                 3150.00      11.35      77.75
       5.50     72.51     32.91   3300.00   4864.1  1534.0
                                                                 3450.00      10.63      80.48
       6.00     73.18     32.91   3600.00   5325.5  1611.3
                                                                 3750.00      14.92      77.90
       6.50     73.68     32.10   3900.00   5967.6  1748.9
                                                                 4050.00      16.00      95.57
       7.00     75.87     31.42   4200.00   6668.4  1680.5
                                                                 4350.00      17.30     113.88
       7.50     79.46     31.00   4500.00   7364.2  1372.2
                                                                 4650.00      20.01     126.31
       8.00     84.00     30.60   4800.00   8073.5   850.8
                                                                 4950.00      22.22     125.05
       8.50     88.15     29.88   5100.00   8873.7   289.2
                                                                 5250.00      24.41     125.67
       9.00     92.00     28.98   5400.00   9746.3  -337.4
                                                                 5550.00      30.32     135.49
       9.50     96.90     27.92   5700.00  10681.2 -1289.1
                                                                 5850.00      24.21     121.88
      10.00     99.10     27.09   6000.00  11585.6 -1851.8
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C-B 1/23/75               FLIGHT NO. 4  17:00
    TIME INTO   AZIMUTH  ELEVATION  HEIGHT       X       Y           HEIGHT    VELOCITY   HEADING
     FLIGHT     -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0. 00    999. 00    999. 00     0. 00     0. 0     0. 0
                                                                    150. 00    10. 27     30. 58
       0. 50     30. 59     33. 58   300. 00   230. 0   389. 1
                                                                    450. 00    13. 54     27. 66
       1. 00     28. 93     29. 81   600. 00   506. 6   916. 8
                                                                    750. 00     1. 81    119. 56
       1. 50     33. 28     40. 62   900. 00   575. 8   877. 5
                                                                   1050. 00     5. 07     35. 61
       2. 00     33. 69     43. 33  1200. 00   705. 7  1058. 8
                                                                   1350. 00     2. 71     23. 83
       2. 50     32. 85     47. 19  1500. 00   753. 8  1167. 8
                                                                   1650. 00     2. 93     13. 23
       3. 00     31. 21     49. 98  1800. 00   783. 3  1293. 2
                                                                   1950. 00     2. 15     25. 09
       3. 50     30. 85     52. 60  2100. 00   823. 5  1379. 0
                                                                   2250. 00     1. 46     61. 44
       4. 00     31. 98     55. 31  2400. 00   880. 0  1409. 7
                                                                   2550. 00     0. 28     31. 97
       4. 50     31. 98     58. 21  2700. 00   886. 5  1420. 2
                                                                   2850. 00     1. 45    156. 20
       5. 00     33. 82     61. 36  3000. 00   912. 2  1361. 9
                                                                   3150. 00     1. 49    130. 12
       5. 50     36. 10     63. 68  3300. 00   962. 2  1319. 8
                                                                   3450. 00     3. 75     89. 54
       6. 00     40. 48     64. 26  3600. 00  1127. 2  1321. 1
                                                                   3750. 00     8. 97    115. 46
       6. 50     52. 20     64. 30  3900. 00  1483. 7  1151. 3
                                                                   4050. 00    10. 32    125. 98
       7. 00     64. 47     63. 98  4200. 00  1850. 9   884. 5
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C-B 1/24/75            FLIGHT NO.1  05:10
  TIME INTO   AZIMUTH   ELEVATION  HEIGHT      X       Y          HEIGHT     VELOCITY   HEADING
   FLIGHT     -DEG.-     -DEG.-    -FEET-   -FEET-  -FEET-        -FEET-     -MPH-      -DEG.-
  -MINUTES-
     0.00     999.00     999.00      0.00      0.0     0.0
                                                                   150.00      1.07     300.11
     0.50     300.20      81.10    300.00    -40.7    23.6
                                                                   450.00      5.95     164.71
     1.00     173.00      69.00    600.00     28.2  -228.7
                                                                   750.00     17.12     140.04
     1.50     147.62      43.31    900.00    511.8  -806.3
                                                                  1050.00     13.45     128.19
     2.00     140.22      38.19   1200.00    976.9 -1172.2
                                                                  1350.00     17.38     119.39
     2.50     133.31      33.61   1500.00   1643.3 -1547.7
                                                                  1650.00     24.14     113.08
     3.00     126.88      28.80   1800.00   2620.4 -1964.3
                                                                  1950.00     32.14     105.66
     3.50     120.53      24.44   2100.00   3982.0 -2346.3
                                                                  2250.00     25.82     101.47
     4.00     116.81      22.81   2400.00   5095.2 -2572.4
                                                                  2550.00     27.18     107.64
     4.50     115.23      21.40   2700.00   6234.8 -2935.0
                                                                  2850.00     34.95     109.33
     5.00     114.16      19.61   3000.00   7685.6 -3444.1
                                                                  3150.00     26.52     106.80
     5.50     113.27      19.01   3300.00   8802.5 -3781.6
                                                                  3450.00     27.31     106.23
     6.00     112.49      18.48   3600.00   9956.1 -4117.6
                                                                  3750.00     30.02     100.68
     6.50     111.21      17.91   3900.00  11253.9 -4362.6
                                                                  4050.00     29.61     112.61
     7.00     111.35      17.44   4200.00  12456.3 -4863.8
                                                                  4350.00     26.65     116.78
     7.50     111.79      17.20   4500.00  13503.2 -5392.4
                                                                  4650.00     29.22     116.56
     8.00     112.18      16.88   4800.00  14653.1 -5967.6
                                                                  4950.00     34.27     118.71
     8.50     112.75      16.41   5100.00  15975.6 -6692.1
                                                                  5250.00     32.66     127.73
     9.00     113.89      16.10   5400.00  17112.1 -7571.8
                                                                  5550.00     35.74     122.39
     9.50     114.55      15.71   5700.00  18439.7 -8414.5
                                                                  5850.00     37.48     135.48
    10.00     116.10      15.38   6000.00  19595.9 -9590.6
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C-B 1/24/75           FLIGHT NO. 2  08:00
  TIME INTO   AZIMUTH   ELEVATION  HEIGHT      X       Y          HEIGHT    VELOCITY  HEADING
   FLIGHT     -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
  -MINUTES-
     0.00     999.00     999.00      0.00  19595.9 -9590.6
                                                                  150.00     999.00    999.00
     0.50     999.00      80.00    300.00    999.0   999.0
                                                                  450.00     999.00    999.00
     1.00      75.20      65.01    600.00    270.5    71.5
                                                                  750.00       8.07     76.61
     1.50      76.00      54.81    900.00    616.0   153.7
                                                                 1050.00       9.74     80.44
     2.00      77.80      48.48   1200.00   1038.7   224.9
                                                                 1350.00      10.79     89.10
     2.50      81.29      44.42   1500.00   1513.4   232.3
                                                                 1650.00      11.21    106.93
     3.00      87.46      42.18   1800.00   1985.1    88.6
                                                                 1950.00       9.33    136.00
     3.50      95.22      42.66   2100.00   2270.2  -206.7
                                                                 2250.00      10.02    151.90
     4.00     103.54      43.29   2400.00   2477.8  -595.8
                                                                 2550.00      10.88    162.47
     4.50     111.89      43.71   2700.00   2621.9 -1052.3
                                                                 2850.00      14.92    161.17
     5.00     120.59      42.36   3000.00   2833.6 -1673.6
                                                                 3150.00      16.50    159.87
     5.50     127.40      40.39   3300.00   3083.2 -2355.3
                                                                 3450.00      23.10    158.52
     6.00     133.72      37.00   3600.00   3455.1 -3301.1
                                                                 3750.00      26.65    156.71
     6.50     138.20      33.58   3900.00   3918.4 -4378.5
                                                                 4050.00      28.57    151.15
     7.00     140.48      30.59   4200.00   4524.6 -5479.7
                                                                 4350.00      26.75    139.03
     7.50     140.28      28.52   4500.00   5296.0 -6368.6
                                                                 4650.00      24.58    131.74
     8.00     139.30      27.17   4800.00   6102.9 -7088.7
                                                                 4950.00      24.34    123.75
     8.50     137.72      26.15   5100.00   6993.2 -7683.8
                                                                 5250.00      27.55    121.06
     9.00     136.00      25.05   5400.00   8031.5 -8309.4
                                                                 5550.00      33.82    122.11
     9.50     134.43      23.67   5700.00   9291.9 -9100.7
                                                                 5850.00      38.42    129.35
    10.00     133.85      22.22   6000.00  10599.0-10172.8
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C-8 1/24/75              FLIGHT NO. 3  11:02
   TIME INTO   AZIMUTH   ELEVATION  HEIGHT      X        Y          HEIGHT     VELOCITY  HEADING
    FLIGHT     -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-     -DEG. -
   -MINUTES-
      0. 00    999. 00    999. 00     0. 00      0. 0      0. 0
                                                                     150. 00      8. 21     89. 97
      0. 50     90. 00     39. 72   300. 00    361. 2      0. 1
                                                                     450. 00      9. 69     94. 46
      1. 00     92. 43     37. 33   600. 00    786. 3    -33. 1
                                                                     750. 00     14. 59     89. 04
      1. 50     90. 92     32. 22   900. 00   1428. 2    -22. 5
                                                                    1050. 00     15. 01     81. 02
      2. 00     87. 80     29. 96  1200. 00   2080. 7     80. 5
                                                                    1350. 00      9. 16     83. 27
      2. 50     87. 07     31. 13  1500. 00   2480. 9    127. 7
                                                                    1650. 00     12. 94     92. 20
      3. 00     88. 03     30. 54  1800. 00   3049. 8    105. 8
                                                                    1950. 00     12. 67    100. 03
      3. 50     89. 88     30. 27  2100. 00   3598. 9      8. 6
                                                                    2250. 00     13. 97    101. 14
      4. 00     91. 52     29. 73  2400. 00   4202. 0   -110. 2
                                                                    2550. 00     15. 35    102. 59
      4. 50     93. 05     29. 02  2700. 00   4861. 2   -257. 5
                                                                    2850. 00     12. 98    105. 76
      5. 00     94. 38     28. 94  3000. 00   5411. 0   -412. 8
                                                                    3150. 00     15. 66    124. 22
      5. 50     97. 64     28. 68  3300. 00   5980. 6   -800. 3
                                                                    3450. 00     17. 20    125. 94
      6. 00    100. 71     28. 22  3600. 00   6593. 4  -1244. 8
                                                                    3750. 00     20. 58    130. 88
      6. 50    104. 19     27. 46  3900. 00   7277. 9  -1837. 6
                                                                    4050. 00     27. 94    131. 90
      7. 00    108. 00     26. 00  4200. 00   8192. 5  -2658. 7
                                                                    4350. 00     28. 48    128. 07
      7. 50    110. 52     24. 67  4500. 00   9178. 8  -3431. 7
                                                                    4650. 00     26. 87    127. 18
      8. 00    112. 30     23. 70  4800. 00  10120. 6  -4146. 4
                                                                    4950. 00     26. 04    123. 17
      8. 50    113. 33     22. 92  5100. 00  11079. 6  -4773. 6
                                                                    5250. 00     30. 87    121. 92
      9. 00    114. 20     21. 94  5400. 00  12232. 4  -5491. 9
                                                                    5550. 00     34. 15    124. 12
      9. 50    115. 20     20. 95  5700. 00  13476. 1  -6335. 1
                                                                    5850. 00     33. 34    128. 87
     10. 00    116. 42     20. 19  6000. 00  14618. 0  -7255. 8
```

C-B 1/24/75 FLIGHT NO. 4 16:49

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG. -	ELEVATION -DEG. -	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG. -
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	10.80	91.18
0.50	91.21	32.27	300.00	475.1	-9.9			
						450.00	12.67	98.68
1.00	95.26	30.22	600.00	1026.0	-94.1			
						750.00	14.53	94.32
1.50	94.91	28.33	900.00	1663.7	-142.4			
						1050.00	17.56	91.41
2.00	93.81	26.18	1200.00	2436.1	-161.5			
						1350.00	17.65	96.64
2.50	94.50	25.00	1500.00	3207.6	-251.4			
						1650.00	22.38	101.39
3.00	96.12	23.22	1800.00	4172.8	-446.1			
						1950.00	23.78	102.11
3.50	97.32	21.85	2100.00	5195.7	-665.7			
						2250.00	18.85	100.95
4.00	97.82	21.59	2400.00	6009.9	-823.4			
						2550.00	17.22	115.17
4.50	99.73	21.68	2700.00	6695.8	-1145.9			
						2850.00	20.48	117.31
5.00	101.77	21.40	3000.00	7496.2	-1559.3			
						3150.00	21.47	120.16
5.50	103.77	21.09	3300.00	8313.1	-2034.3			
						3450.00	23.57	118.57
6.00	105.36	20.63	3600.00	9223.7	-2530.2			
						3750.00	18.88	122.41
6.50	106.71	20.63	3900.00	9925.0	-2975.7			
						4050.00	24.21	123.15
7.00	108.23	20.25	4200.00	10816.7	-3558.3			
						4350.00	29.49	145.23
7.50	111.83	19.88	4500.00	11556.4	-4624.3			
						4650.00	36.76	130.27
8.00	113.93	18.94	4800.00	12790.1	-5670.1			
						4950.00	47.66	129.28
8.50	115.92	17.66	5100.00	14413.2	-6998.1			

```
C-B 1/25/75              FLIGHT NO. 2  08:00
    TIME INTO   AZIMUTH  ELEVATION  HEIGHT      X        Y            HEIGHT    VELOCITY  HEADING
     FLIGHT     -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-           -FEET-    -MPH-     -DEG. -
    -MINUTES-
       0.00     999.00    999.00      0.00      0.0      0.0
                                                                     150.00     27.11     86.27
       0.50      86.30     14.12    300.00   1190.3     77.3
                                                                     450.00     24.08     87.02
       1.00      86.65     14.92    600.00   2248.4    132.3
                                                                     750.00     40.49     86.51
       1.50      86.60     12.58    900.00   4026.6    240.4
                                                                    1050.00     24.53     92.03
       2.00      87.75     13.22   1200.00   5105.2    202.1
                                                                    1350.00     21.97     93.76
       2.50      88.71     13.88   1500.00   6069.9    138.5
                                                                    1650.00     37.90     97.33
       3.00      90.57     13.12   1800.00   7724.0    -74.5
                                                                    1950.00     30.64     95.05
       3.50      91.24     13.04   2100.00   9066.9   -193.5
                                                                    2250.00     42.08    100.61
       4.00      92.83     12.42   2400.00  10886.7   -534.8
                                                                    2550.00     42.18    103.77
       4.50      94.42     11.98   2700.00  12689.3   -976.9
                                                                    2850.00     40.59    106.72
       5.00      95.93     11.71   3000.00  14399.6  -1491.1
                                                                    3150.00     47.57    107.35
       5.50      97.37     11.29   3300.00  16397.2  -2115.5
                                                                    3450.00     48.43    111.00
       6.00      98.92     10.95   3600.00  18386.6  -2879.7
                                                                    3750.00     49.59    114.17
       6.50     100.51     10.66   3900.00  20377.0  -3773.3
                                                                    4050.00     46.98    117.31
       7.00     102.02     10.48   4200.00  22213.5  -4721.9
                                                                    4350.00     44.06    121.34
       7.50     103.52     10.39   4500.00  23869.1  -5730.6
                                                                    4650.00     50.37    122.22
       8.00     105.05     10.21   4800.00  25743.8  -6912.6
                                                                    4950.00     55.63    120.86
       8.50     106.37      9.97   5100.00  27844.5  -8168.6
                                                                    5250.00     58.36    121.98
       9.00     107.63      9.73   5400.00  30022.1  -9529.1
                                                                    5550.00     51.57    124.92
       9.50     108.78      9.61   5700.00  31882.5-10828.5
                                                                    5850.00     50.01    125.40
      10.00     109.79      9.52   6000.00  33675.7-12103.6
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C-B 1/25/75            FLIGHT NO. 3  11:00
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y            HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00      0.0     0.0
                                                                    150.00     30.31     97.87
       0.50     97.90     12.68    300.00   1321.0  -182.9
                                                                    450.00     34.95    101.08
       1.00     99.62     11.81    600.00   2829.9  -478.7
                                                                    750.00     21.32    100.48
       1.50     99.84     13.30    900.00   3752.2  -649.5
                                                                   1050.00     27.36     93.81
       2.00     98.40     13.48   1200.00   4953.6  -729.8
                                                                   1350.00     36.82     92.11
       2.50     96.87     12.77   1500.00   6572.3  -789.7
                                                                   1650.00     36.40     88.98
       3.00     95.34     12.37   1800.00   8173.6  -761.4
                                                                   1950.00     37.45     86.26
       3.50     93.83     12.05   2100.00   9817.7  -654.2
                                                                   2250.00     25.07     76.97
       4.00     92.15     12.42   2400.00  10892.3  -405.6
                                                                   2550.00     28.92     81.08
       4.50     91.00     12.53   2700.00  12149.4  -208.4
                                                                   2850.00     27.82     78.11
       5.00     89.83     12.67   3000.00  13347.2    43.5
                                                                   3150.00     31.17     78.37
       5.50     88.77     12.66   3300.00  14690.4   319.7
                                                                   3450.00     32.91     78.68
       6.00     87.87     12.59   3600.00  16110.5   603.9
                                                                   3750.00     41.29     84.39
       6.50     87.52     12.27   3900.00  17918.6   781.3
                                                                   4050.00     50.20     85.76
       7.00     87.33     11.78   4200.00  20121.2   944.2
                                                                   4350.00     48.18     85.10
       7.50     87.12     11.43   4500.00  22233.3  1124.9
                                                                   4650.00     36.31     92.47
       8.00     87.48     11.38   4800.00  23829.6  1055.7
                                                                   4950.00     52.48     94.83
       8.50     88.13     11.04   5100.00  26130.7   860.7
                                                                   5250.00     67.25     95.00
       9.00     88.83     10.52   5400.00  29078.5   602.4
                                                                   5550.00     72.90     96.47
       9.50     89.59     10.02   5700.00  32265.8   240.4
                                                                   5850.00     69.68     99.16
      10.00     90.42      9.65   6000.00  35292.8  -248.2
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C-B 1/25/75          FLIGHT NO. 4  17:00
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT     X       Y           HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-  -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00     0.0     0.0
                                                                   150.00     21.84     16.28
       0.50     16.28     17.34    300.00   269.4   922.5
                                                                   450.00     26.89     21.37
       1.00     19.09     15.65    600.00   700.5  2024.4
                                                                   750.00     28.47     30.75
       1.50     23.39     14.92    900.00  1340.9  3100.9
                                                                  1050.00     38.98     39.28
       2.00     28.73     13.37   1200.00  2426.9  4428.4
                                                                  1350.00     44.10     38.79
       2.50     31.52     12.15   1500.00  3642.5  5940.8
                                                                  1650.00     44.46     45.30
       3.00     34.53     11.46   1800.00  5033.1  7316.8
                                                                  1950.00     34.43     52.39
       3.50     37.11     11.49   2100.00  6233.4  8241.2
                                                                  2250.00    999.00    999.00
       4.00    999.00    999.00   2400.00   999.0   999.0
                                                                  2550.00    999.00    999.00
       4.50     42.98     10.42   2700.00 10010.0 10744.9
                                                                  2850.00     46.99     52.64
       5.00     44.17     10.17   3000.00 11653.3 11999.4
                                                                  3150.00     41.30     60.96
       5.50     45.80     10.13   3300.00 13242.0 12881.2
                                                                  3450.00     30.88     65.97
       6.00     47.16     10.33   3600.00 14483.0 13434.4
                                                                  3750.00     13.58    172.41
       6.50     48.60     11.36   3900.00 14561.8 12842.1
                                                                  4050.00     50.08     73.68
       7.00     51.10     11.09   4200.00 16676.7 13461.0
                                                                  4350.00     43.04     76.61
       7.50     53.12     11.00   4500.00 18519.1 13899.5
                                                                  4650.00     29.05     97.03
       8.00     55.23     11.27   4800.00 19787.8 13742.9
                                                                  4950.00     34.68    116.00
       8.50     58.30     11.59   5100.00 21159.0 13073.7
                                                                  5250.00     30.44     97.68
       9.00     60.18     11.77   5400.00 22486.5 12894.5
                                                                  5550.00     45.01    113.59
       9.50     63.54     11.86   5700.00 24301.3 12101.4
                                                                  5850.00     50.80    111.17
      10.00     66.84     11.81   6000.00 26385.5 11293.9
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C-B 1/26 75             FLIGHT NO. 2  08:15
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y          HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -  -FEET-  -FEET-  -FEET-         -FEET-    -MPH-     -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00  26385.5 11293.9
                                                                  150.00    999.00    999.00
       0.50    999.00    999.00    300.00   999.0   999.0
                                                                  450.00    999.00    999.00
       1.00     21.10     14.25    600.00   850.5  2204.6
                                                                  750.00     39.20     30.72
       1.50     25.16     12.46    900.00  1731.7  3687.5
                                                                 1050.00     34.73     38.90
       2.00     28.90     12.16   1200.00  2691.5  4876.7
                                                                 1350.00     27.85    359.82
       2.50     23.78     12.68   1500.00  2688.3  6102.3
                                                                 1650.00     57.10     78.41
       3.00     37.94     12.13   1800.00  5149.3  6606.8
                                                                 1950.00     20.55     76.84
       3.50     41.52     13.00   2100.00  6029.9  6812.6
                                                                 2250.00     40.71     62.18
       4.00     44.88     12.54   2400.00  7614.1  7648.3
                                                                 2550.00     39.14     70.70
       4.50     48.36     12.32   2700.00  9239.5  8217.4
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C-B 1/26/75 FLIGHT NO. 4 16:50

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG. -	ELEVATION -DEG. -	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG. -
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	21.68	63.73
0.50	63.75	17.46	300.00	855.5	422.1			
						450.00	20.13	61.72
1.00	62.78	18.07	600.00	1635.5	841.7			
						750.00	19.91	63.51
1.50	63.02	18.34	900.00	2419.7	1232.5			
						1050.00	29.73	62.17
2.00	62.75	16.61	1200.00	3576.6	1843.0			
						1350.00	999.00	999.00
2.50	999.00	999.00	1500.00	999.0	999.0			
						1650.00	999.00	999.00
3.00	999.00	999.00	1800.00	999.0	999.0			
						1950.00	999.00	999.00
3.50	66.15	11.84	2100.00	9162.7	4053.2			
						2250.00	51.11	72.08
4.00	67.24	11.08	2400.00	11302.4	4744.8			
						2550.00	59.19	64.48
4.50	66.76	10.30	2700.00	13653.0	5866.5			
						2850.00	54.94	76.70
5.00	68.15	9.87	3000.00	16005.5	6422.1			
						3150.00	51.13	70.47
5.50	68.42	9.61	3300.00	18125.8	7173.9			
						3450.00	53.09	73.64
6.00	68.98	9.37	3600.00	20367.1	7831.7			
						3750.00	56.58	74.82
6.50	69.58	9.12	3900.00	22770.0	8483.1			
						4050.00	35.37	65.24
7.00	69.32	9.23	4200.00	24183.1	9134.7			

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C-B 1/29/75            FLIGHT NO. 1  05:02
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
    -MINUTES-
      0.00     999.00    999.00      0.00      0.0      0.0
                                                                   150.00      8.98    307.11
      0.50     307.20     37.20    300.00   -315.1    238.7
                                                                   450.00     10.41    349.26
      1.00     329.90     37.00    600.00   -400.2    688.6
                                                                  .750.00     12.66      1.10
      1.50     342.70     34.60    900.00   -389.5   1245.5
                                                                  1050.00     16.60     15.57
      2.00     354.40     31.50   1200.00   -193.4   1949.1
                                                                  1350.00     17.27     30.79
      2.50       4.30     29.90   1500.00    195.6   2601.8
                                                                  1650.00     20.85     19.35
      3.00       8.20     27.20   1800.00    499.6   3467.4
                                                                  1950.00     28.55     19.97
      3.50      11.30     23.90   2100.00    928.6   4648.1
                                                                  2250.00     31.93     28.90
      4.00      15.30     21.50   2400.00   1607.8   5878.1
                                                                  2550.00     29.27     31.45
      4.50      18.10     20.20   2700.00   2279.9   6976.8
                                                                  2850.00     35.03     36.71
      5.00      21.30     18.80   3000.00   3201.2   8212.4
                                                                  3150.00     33.62     41.01
      5.50      24.10     17.90   3300.00   4172.0   9328.6
                                                                  3450.00     36.92     41.76
      6.00      26.50     17.00   3600.00   5254.1  10540.5
                                                                  3750.00     32.36     51.13
      6.50      29.10     16.60   3900.00   6362.6  11433.9
                                                                  4050.00     37.49     75.46
      7.00      33.90     16.40   4200.00   7959.5  11847.9
                                                                  4350.00     29.88     56.88
      7.50      35.80     16.20   4500.00   9060.8  12566.2
                                                                  4650.00     28.33     71.11
      8.00      38.30     16.20   4800.00  10240.2  12969.8
                                                                  4950.00     30.27     57.33
      8.50      39.70     16.00   5100.00  11361.5  13688.6
                                                                  5250.00     28.77     62.76
      9.00      41.20     15.90   5400.00  12487.2  14268.0
                                                                  5550.00     25.96     64.60
      9.50      42.50     15.90   5700.00  13519.2  14757.8
                                                                  5850.00     30.86     71.86
     10.00      44.30     15.80   6000.00  14809.6  15180.4
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C-B 1/29/75            FLIGHT NO. 2  08:02
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT       X       Y            HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-           -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00     999.00    999.00      0.00      0.0      0.0
                                                                      150.00      8.92    325.81
       0.50     325.90     37.41    300.00   -220.3    324.6
                                                                      450.00     13.21    354.18
       1.00     342.90     32.42    600.00   -278.9    902.9
                                                                      750.00     18.71      9.35
       1.50     355.23     27.61    900.00   -145.1   1715.1
                                                                     1050.00     20.19     16.76
       2.00       2.48     25.05   1200.00    111.1   2565.7
                                                                     1350.00     22.01     22.85
       2.50       8.02     23.25   1500.00    487.1   3457.9
                                                                     1650.00     20.39     26.31
       3.00      11.73     22.47   1800.00    884.8   4262.1
                                                                     1950.00     25.50     28.28
       3.50      15.10     21.12   2100.00   1416.3   5250.1
                                                                     2250.00     33.10     32.15
       4.00      18.68     19.33   2400.00   2191.4   6482.9
                                                                     2550.00     33.85     39.44
       4.50      22.35     18.12   2700.00   3137.6   7632.9
                                                                     2850.00     37.85     35.33
       5.00      24.52     16.89   3000.00   4100.6   8991.5
                                                                     3150.00     38.02     38.83
       5.50      26.58     16.00   3300.00   5149.6  10294.6
                                                                     3450.00     40.03     40.75
       6.00      28.45     15.23   3600.00   6299.4  11628.9
                                                                     3750.00     38.12     52.37
       6.50      31.09     14.79   3900.00   7627.9  12652.9
                                                                     4050.00     39.33     53.72
       7.00      33.42     14.38   4200.00   9022.8  13676.8
                                                                     4350.00     46.04     66.29
       7.50      36.90     13.95   4500.00  10877.5  14491.1
                                                                     4650.00     42.59     43.51
       8.00      37.52     13.51   4800.00  12167.8  15850.1
                                                                     4950.00     40.83     63.39
       8.50      39.60     13.28   5100.00  13774.1  16654.5
                                                                     5250.00     40.07     65.61
       9.00      41.51     13.10   5400.00  15379.8  17382.4
                                                                     5550.00     34.93     67.85
       9.50      43.10     13.05   5700.00  16803.4  17961.7
                                                                     5850.00     47.72     67.56
      10.00      44.98     12.75   6000.00  18744.1  18762.8
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C-B 1/29/75          FLIGHT NO. 3  11:00
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT     X       Y            HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-  -FEET-  -FEET-          -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00     0.0     0.0
                                                                   150.00       6.94    335.90
       0.50    336.00     44.50    300.00  -124.5   278.8
                                                                   450.00       8.05     13.45
       1.00    356.20     43.85    600.00   -42.1   623.3
                                                                   750.00      18.68     10.73
       1.50      4.43     32.10    900.00   110.8  1430.8
                                                                  1050.00      27.04     15.90
       2.00      9.63     24.68   1200.00   436.9  2575.2
                                                                  1350.00      33.99      6.77
       2.50      8.59     20.07   1500.00   613.2  4060.4
                                                                  1650.00      22.21     13.22
       3.00      9.48     19.51   1800.00   836.7  5011.9
                                                                  1950.00      29.15     18.47
       3.50     11.29     18.30   2100.00  1243.2  6228.2
                                                                  2250.00      30.31     22.27
       4.00     13.19     17.39   2400.00  1748.6  7462.5
                                                                  2550.00      39.82     23.64
       4.50     15.13     16.04   2700.00  2451.3  9067.7
                                                                  2850.00      41.99     29.75
       5.00     17.52     15.01   3000.00  3368.2 10571.7
                                                                  3150.00      38.75     38.22
       5.50     20.22     14.46   3300.00  4423.0 12011.0
                                                                  3450.00      32.79     42.32
       6.00     22.42     14.28   3600.00  5394.5 13077.9
                                                                  3750.00      30.71     43.41
       6.50     24.22     14.20   3900.00  6323.0 14059.3
                                                                  4050.00      37.64     44.95
       7.00     26.20     13.90   4200.00  7493.1 15231.4
                                                                  4350.00      42.22     48.71
       7.50     28.38     13.53   4500.00  8889.0 16457.2
                                                                  4650.00      53.49     48.61
       8.00     30.61     12.92   4800.00 10654.8 18013.2
                                                                  4950.00      58.36     50.74
       8.50     32.78     12.32   5100.00 12643.2 19638.1
                                                                  5250.00      64.76     63.19
       9.00     35.98     11.80   5400.00 15186.5 20922.9
                                                                  5550.00      65.45     42.96
       9.50     36.68     11.23   5700.00 17149.3 23030.1
                                                                  5850.00      66.38     53.64
      10.00     38.23     10.78   6000.00 19501.4 24761.7
```

C-B 1/29/75 FLIGHT NO. 4 17:10

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG. -	ELEVATION -DEG. -	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG. -
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	3.86	55.48
0.50	55.50	60.50	300.00	139.9	96.2			
						450.00	2.25	46.91
1.00	52.34	65.92	600.00	212.4	164.0			
						750.00	2.15	325.41
1.50	33.24	72.19	900.00	158.6	242.0			
						1050.00	3.44	344.98
2.00	17.12	71.32	1200.00	119.5	388.0			
						1350.00	6.92	35.55
2.50	25.01	64.95	1500.00	296.5	635.7			
						1650.00	10.64	27.28
3.00	25.92	57.00	1800.00	511.1	1051.8			
						1950.00	16.28	32.23
3.50	28.32	48.13	2100.00	893.1	1657.6			
						2250.00	17.31	33.59
4.00	29.84	42.26	2400.00	1314.4	2291.9			
						2550.00	18.54	34.54
4.50	30.95	38.01	2700.00	1776.8	2963.7			
						2850.00	32.25	28.85
5.00	30.34	31.62	3000.00	2461.5	4206.5			
						3150.00	40.10	31.76
5.50	30.72	26.44	3300.00	3390.2	5706.5			
						3450.00	36.13	33.14
6.00	31.19	23.64	3600.00	4259.4	7037.6			
						3750.00	48.04	32.21
6.50	31.40	20.67	3900.00	5386.1	8825.9			
						4050.00	35.08	37.17
7.00	32.15	19.48	4200.00	6318.6	10055.6			

```
C-B 1/31/75           FLIGHT NO. 2  07:55
   TIME INTO  AZIMUTH  ELEVATION  HEIGHT       X       Y          HEIGHT     VELOCITY  HEADING
    FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-      -MPH-    -DEG. -
   -MINUTES-
      0.00    999.00    999.00      0.00      0.0      0.0
                                                                  150.00      10.73     16.91
      0.50     16.91     32.44    300.00    137.3    451.7
                                                                  450.00      20.72     18.57
      1.00     18.01     23.45    600.00    427.7   1315.7
                                                                  750.00      22.84     25.35
      1.50     21.10     20.69    900.00    857.9   2223.8
                                                                 1050.00      23.86     32.89
      2.00     24.70     19.35   1200.00   1427.9   3105.2
                                                                 1350.00      24.19     37.92
      2.50     27.83     18.59   1500.00   2082.1   3944.9
                                                                 1650.00      25.10     39.19
      3.00     30.08     17.98   1800.00   2780.0   4800.7
                                                                 1950.00      23.41     43.48
      3.50     32.17     17.77   2100.00   3488.9   5548.0
                                                                 2250.00      23.60     42.95
      4.00     33.64     17.58   2400.00   4196.5   6308.1
                                                                 2550.00      24.41     42.75
      4.50     34.77     17.36   2700.00   4925.6   7096.7
                                                                 2850.00      23.26     47.48
      5.00     36.11     17.29   3000.00   5680.1   7788.5
                                                                 3150.00      25.47     48.84
      5.50     37.43     17.09   3300.00   6524.0   8525.9
                                                                 3450.00      27.27     47.50
      6.00     38.44     16.81   3600.00   7408.6   9336.3
                                                                 3750.00      27.38     49.81
      6.50     39.48     16.58   3900.00   8328.8  10113.5
                                                                 4050.00      30.13     53.05
      7.00     40.72     16.27   4200.00   9388.5  10910.4
                                                                 4350.00      32.28     55.87
      7.50     42.07     15.93   4500.00  10564.3  11707.4
                                                                 4650.00      33.89     59.86
      8.00     43.59     15.60   4800.00  11854.1  12456.0
                                                                 4950.00      37.76     60.91
      8.50     45.10     15.19   5100.00  13306.2  13263.8
                                                                 5250.00      37.08     61.79
      9.00     46.42     14.86   5400.00  14743.9  14035.0
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C-   '31/75                FLIGHT NO. 3  10:55
 TIME INTO   AZIMUTH   ELEVATION   HEIGHT      .X       Y         HEIGHT     VELOCITY   HEADING
  FLIGHT     -DEG. -    -DEG. -    -FEET-   -FEET-  -FEET-        -FEET-      -MPH-     -DEG. -
 -MINUTES-
    0.00     999.00     999.00       0.00      0.0      0.0
                                                                   150.00       9.11     54.86
    0.50      54.88      36.82     300.00    327.8    230.7
                                                                   450.00       7.54     30.43
    1.00      43.83      39.97     600.00    495.8    516.6
                                                                   750.00      10.18     18.03
    1.50      33.95      38.39     900.00    634.4    942.6
                                                                  1050.00      12.34     21.39
    2.00      29.90      35.70    1200.00    832.5   1448.1
                                                                  1350.00      16.15     31.26
    2.50      30.31      32.22    1500.00   1201.3   2055.4
                                                                  1650.00      21.12     35.07
    3.00      31.65      28.56    1800.00   1735.3   2815.9
                                                                  1950.00      20.67     34.28
    3.50      32.22      26.48    2100.00   2247.8   3567.5
                                                                  2250.00      24.91     37.45
    4.00      33.30      24.33    2400.00   2914.3   4437.7
                                                                  2550.00      21.68     46.82
    4.50      35.35      23.40    2700.00   3610.1   5090.5
                                                                  2850.00      25.89     46.91
    5.00      37.13      22.18    3000.00   4442.1   5868.6
                                                                  3150.00      32.16     54.44
    5.50      39.90      20.73    3300.00   5593.3   6691.3
                                                                  3450.00      32.54     59.85
    6.00      42.68      19.66    3600.00   6831.3   7410.3
                                                                  3750.00      32.86     61.21
    6.50      44.98      18.80    3900.00   8098.4   8106.4
                                                                  4050.00      30.89     59.79
    7.00      46.54      18.20    4200.00   9272.9   8790.0
                                                                  4350.00      30.65     61.09
    7.50      47.92      17.72    4500.00  10453.5   9441.8
                                                                  4650.00      31.37     61.10
    8.00      49.09      17.28    4800.00  11661.8  10108.6
                                                                  4950.00      29.19     60.19
    8.50      49.94      16.99    5100.00  12776.2  10746.9
                                                                  5250.00      28.21     64.20
    9.00      50.92      16.79    5400.00  13893.7  11286.9
                                                                  5550.00      29.36     64.07
    9.50      51.80      16.57    5700.00  15055.6  11851.8
                                                                  5850.00      31.93     64.01
   10.00      52.63      16.29    6000.00  16318.3  12467.3
                                                                  6150.00      33.87     62.85
   10.50      53.32      15.98    6300.00  17644.6  13147.1
                                                                  6450.00      36.09     64.50
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C-B 2/1/75               FLIGHT NO. 1  05:12
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-  -FEET-  -FEET-          -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00     0.0     0.0
                                                                   150.00      8.54     46.89
       0.50     46.90     38.60    300.00   274.4   256.9
                                                                 . 450.00    999.00    999.00
       1.00    999.00    999.00    600.00   999.0   999.0
                                                                   750.00    999.00    999.00
       1.50     38.04     27.75    900.00  1054.2  1347.7
                                                                  1050.00     16.48     18.81
       2.00     32.35     26.50   1200.00  1287.9  2033.9
                                                                  1350.00     23.17     35.20
       2.50     33.20     23.65   1500.00  1875.6  2866.9
                                                                  1650.00     35.24     29.02
       3.00     31.90     19.90   1800.00  2627.7  4222.6
                                                                  1950.00     24.51     19.67
       3.50     29.73     19.20   2100.00  2990.6  5238.0
                                                                  2250.00     35.45     32.25
       4.00     30.25     17.55   2400.00  3823.1  6557.1
                                                                  2550.00     34.71     32.03
       4.50     30.55     16.50   2700.00  4633.2  7851.8
                                                                  2850.00     37.07     32.52
       5.00     30.85     15.60   3000.00  5510.0  9226.9
                                                                  3150.00    999.00    999.00
       5.50    999.00    999.00   3300.00  5510.0  9226.9
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C-8 2/1/75            FLIGHT NO. 2  08:20
  TIME INTO   AZIMUTH   ELEVATION  HEIGHT      X       Y          HEIGHT    VELOCITY  HEADING
   FLIGHT     -DEG. -    -DEG. -   -FEET-   -FEET- -FEET-         -FEET-     -MPH-    -DEG. -
 -MINUTES-
    0.00       999.00     999.00      0.00      0.0     0.0
                                                                   150.00     13.23     21.21
    0.50        21.22      27.27    300.00    210.7   542.7
                                                                   450.00     21.45     30.62
    1.00        27.04      21.53    600.00    691.4  1355.0
                                                                   750.00     22.78     31.94
    1.50        28.99      19.65    900.00   1221.6  2205.3
                                                                  1050.00     21.41     35.64
    2.00        30.80      19.14   1200.00   1770.5  2970.7
                                                                  1350.00     19.03     38.80
    2.50        32.36      19.28   1500.00   2295.2  3623.2
                                                                  1650.00     22.02     45.43
    3.00        34.76      18.97   1800.00   2985.6  4303.2
                                                                  1950.00     23.27     49.21
    3.50        37.11      18.62   2100.00   3760.7  4972.0
                                                                  2250.00     35.17     46.72
    4.00        39.02      17.18   2400.00   4887.6  6032.9
                                                                  2550.00     26.56     65.94
    4.50        42.46      17.02   2700.00   5954.7  6509.3
                                                                  2850.00     24.87    333.58
    5.00        36.14      17.93   3000.00   5468.2  7489.7
                                                                  3150.00     22.28     66.10
    5.50        38.91      18.04   3300.00   6364.3  7886.7
                                                                  3450.00     56.30    114.95
    6.00        51.54      18.13   3600.00   8609.9  6841.2
                                                                  3750.00     23.22     79.80
    6.50        53.87      18.14   3900.00   9615.3  7021.9
                                                                  4050.00     25.53     81.32
    7.00        56.17      18.02   4200.00  10725.9  7191.4
                                                                  4350.00     27.22     81.90
    7.50        58.30      17.82   4500.00  11911.6  7359.9
                                                                  4650.00     27.98     79.95
    8.00        60.02      17.58   4800.00  13124.0  7574.5
                                                                  4950.00     25.90     84.31
    8.50        61.68      17.48   5100.00  14257.8  7687.2
                                                                  5250.00     31.63     80.10
    9.00        63.12      17.13   5400.00  15628.9  7926.2
                                                                  5550.00     33.74     75.07
    9.50        64.05      16.72   5700.00  17063.6  8308.5
                                                                  5850.00     33.47     74.21
   10.00        64.78      16.37   6000.00  18480.6  8709.0
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C-B 2/1/75              FLIGHT NO. 3  10:56
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X        Y          HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-   -FEET-        -FEET-    -MPH-     -DEG. -
    -MINUTES-
      0.00     999.00    999.00      0.00      0.0      0.0
                                                                   150.00     10.13     21.47
      0.50      21.48     33.95    300.00    163.2    414.8
                                                                   450.00      9.00     11.19
      1.00      16.64     35.60    600.00    240.0    803.2
                                                                   750.00      9.93     10.21
      1.50      14.44     35.26    900.00    317.5   1233.1
                                                                  1050.00     11.27     23.15
      2.00      16.88     34.22   1200.00    512.4   1688.8
                                                                  1350.00     12.62     42.54
      2.50      22.94     33.37   1500.00    887.7   2097.9
                                                                  1650.00     13.23     65.61
      3.00      31.24     33.36   1800.00   1418.0   2338.3
                                                                  1950.00     11.44     83.45
      3.50      38.69     34.39   2100.00   1918.1   2395.6
                                                                  2250.00     11.74     85.38
      4.00      44.96     34.88   2400.00   2433.0   2437.1
                                                                  2550.00     13.68     84.48
      4.50      50.56     34.52   2700.00   3032.0   2494.9
                                                                  2850.00     14.63     78.65
      5.00      54.42     33.67   3000.00   3663.1   2621.6
                                                                  3150.00     16.93     81.44
      5.50      58.17     32.51   3300.00   4399.8   2732.4
                                                                  3450.00     21.22     81.09
      6.00      61.62     30.76   3600.00   5322.3   2876.8
                                                                  3750.00     22.83     77.88
      6.50      63.92     29.06   3900.00   6304.6   3087.5
                                                                  4050.00     23.06     77.92
      7.00      65.68     27.68   4200.00   7297.0   3299.7
                                                                  4350.00     23.01     75.31
      7.50      66.76     26.55   4500.00   8276.2   3556.2
                                                                  4650.00     24.96     71.99
      8.00      67.33     25.42   4800.00   9320.6   3895.6
                                                                  4950.00     27.53     72.92
      8.50      67.93     24.28   5100.00  10478.6   4251.3
                                                                  5250.00     30.41     70.84
      9.00      68.24     23.13   5400.00  11742.4   4690.2
                                                                  5550.00     32.24     71.00
      9.50      68.52     22.07   5700.00  13083.7   5151.9
                                                                  5850.00     32.81     70.43
     10.00      68.70     21.16   6000.00  14443.9   5635.2
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C-B 2/1/75            FLIGHT NO. 4  17:53
    TIME INTO  AZIMUTH   ELEVATION  HEIGHT      X       Y          HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0.00     999.00     999.00      0.00      0.0      0.0
                                                                    150.00       6.44     10.53
       0.50      10.53      46.63    300.00     51.8    278.7
                                                                    450.00       9.51     10.74
       1.00      10.66      40.53    600.00    129.8    689.8
                                                                    750.00      11.91     19.22
       1.50      14.32      36.36    900.00    302.4   1184.8
                                                                   1050.00      11.41     21.81
       2.00      16.50      34.88   1200.00    488.9   1651.0
                                                                   1350.00      11.91     24.52
       2.50      18.37      33.79   1500.00    706.5   2127.9
                                                                   1650.00      11.09     26.26
       3.00      19.78      33.44   1800.00    922.5   2565.6
                                                                   1950.00       9.17     31.77
       3.50      21.32      33.93   2100.00   1135.0   2908.8
                                                                   2250.00      12.82     25.56
       4.00      21.97      33.08   2400.00   1378.5   3417.8
                                                                   2550.00      13.44     33.21
       4.50      23.52      32.33   2700.00   1702.5   3912.7
                                                                   2850.00      18.21     36.99
       5.00      25.64      30.72   3000.00   2184.7   4552.7
                                                                   3150.00      21.49     42.83
       5.50      28.33      28.98   3300.00   2827.6   5246.1
                                                                   3450.00      23.97     60.08
       6.00      32.96      27.63   3600.00   3741.9   5772.2
                                                                   3750.00      23.09     68.37
       6.50      37.33      26.78   3900.00   4686.2   6146.4
                                                                   4050.00      24.95     68.57
       7.00      41.09      25.81   4200.00   5708.0   6547.3
                                                                   4350.00      27.05     67.33
       7.50      44.18      24.74   4500.00   6806.3   7006.0
                                                                   4650.00      32.89     65.07
       8.00      46.84      23.33   4800.00   8118.9   7615.8
                                                                   4950.00      34.24     63.68
       8.50      48.83      22.07   5100.00   9469.4   8283.8
                                                                   5250.00      34.91     61.29
       9.00      50.18      20.98   5400.00  10816.7   9021.6
                                                                   5550.00      35.81     62.15
       9.50      51.38      20.04   5700.00  12210.6   9757.5
                                                                   5850.00      35.34     62.91
      10.00      52.42      19.28   6000.00  13594.4  10465.3
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C-B 2/2/75              FLIGHT NO. 1  05:20
    TIME INTO   AZIMUTH  ELEVATION  HEIGHT      X       Y          HEIGHT    VELOCITY   HEADING
     FLIGHT     -DEG. -    -DEG. -   -FEET-  -FEET-  -FEET-        -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0.00     999.00    999.00      0.00      0.0     0.0
                                                                  150.00     14.53      29.94
       0.50      29.95     25.15    300.00    319.0   553.8
                                                                  450.00    999.00     999.00
       1.00     999.00    999.00    600.00    999.0   999.0
                                                                  750.00    999.00     999.00
       1.50     328.20     24.67    900.00  -1034.6  1664.6
                                                                 1050.00      9.53      17.08
       2.00     336.25     28.00   1200.00   -911.4  2065.2
                                                                 1350.00    999.00     999.00
       2.50     999.00    999.00   1500.00    999.0   999.0
                                                                 1650.00    999.00     999.00
       3.00     999.00    999.00   1800.00    999.0   999.0
                                                                 1950.00    999.00     999.00
       3.50     999.00    999.00   2100.00    999.0   999.0
                                                                 2250.00    999.00     999.00
       4.00      10.02     28.70   2400.00    762.8  4317.8
                                                                 2550.00     15.94     303.26
       4.50       2.15     29.85   2700.00    176.5  4702.7
                                                                 2850.00     33.29      57.56
       5.00      14.44     27.90   3000.00   1413.0  5488.3
                                                                 3150.00     33.43      32.82
       5.50      18.20     25.00   3300.00   2210.4  6724.4
                                                                 3450.00     41.65      83.02
       6.00      30.12     24.15   3600.00   4029.3  6946.9
                                                                 3750.00     38.46     331.79
       6.50      20.95     23.35   3900.00   3230.2  8438.8
                                                                 4050.00     23.59      27.75
       7.00      21.65     22.65   4200.00   3713.5  9357.3
                                                                 4350.00     25.06      35.62
       7.50      23.02     22.00   4500.00   4355.6 10253.4
                                                                 4650.00     31.93      49.85
       8.00      25.95     21.15   4800.00   5429.4 11159.1
                                                                 4950.00     22.15      39.78
       8.50      26.95     20.90   5100.00   6053.1 11908.2
                                                                 5250.00     29.50      47.95
       9.00      28.78     20.33   5400.00   7017.2 12777.6
                                                                 5550.00     20.70      25.71
       9.50      28.60     20.21   5700.00   7412.2 13598.0
                                                                 5850.00     17.92      37.29
      10.00      29.02     20.25   6000.00   7890.0 14225.5
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C-B 3/2/75              FLIGHT NO. 2  07:53
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-    -MPH-     -DEG. -
    -MINUTES-
       0. 00    999. 00   999. 00     0. 00     0. 0      0. 0
                                                                   150. 00    15. 00    339. 62
       0. 50    339. 72    24. 45   300. 00   -229. 4   618. 8
                                                                   450. 00    10. 74    339. 17
       1. 00    339. 53    27. 92   600. 00   -397. 2  1060. 5
                                                                   750. 00    15. 12    353. 07
       1. 50    344. 57    26. 75   900. 00   -477. 1  1721. 0
                                                                  1050. 00    19. 25      2. 83
       2. 00    350. 44    24. 75  1200. 00   -435. 4  2566. 9
                                                                  1350. 00    24. 48     14. 25
       2. 50    357. 37    22. 54  1500. 00   -170. 1  3610. 9
                                                                  1650. 00    26. 63     17. 47
       3. 00      2. 20    20. 83  1800. 00    181. 6  4728. 6
                                                                  1950. 00    36. 67     16. 73
       3. 50      5. 88    18. 42  2100. 00    646. 0  6273. 6
                                                                  2250. 00    17. 96     29. 22
       4. 00      8. 43    18. 83  2400. 00   1031. 8  6963. 3
                                                                  2550. 00    24. 91     22. 09
       4. 50     10. 26    18. 42  2700. 00   1444. 0  7979. 1
                                                                  2850. 00    29. 51    330. 73
       5. 00      5. 08    18. 16  3000. 00    809. 9  9112. 0
                                                                  3150. 00    42. 11     64. 11
       5. 50     14. 02    17. 89  3300. 00   2476. 7  9920. 7
                                                                  3450. 00    23. 45     34. 98
       6. 00     15. 91    17. 83  3600. 00   3068. 2 10766. 2
                                                                  3750. 00    25. 36     32. 74
       6. 50     17. 42    17. 64  3900. 00   3671. 8 11704. 7
                                                                  4050. 00    27. 95     29. 78
       7. 00     18. 54    17. 32  4200. 00   4282. 5 12772. 0
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C-B 2/2/75          FLIGHT NO. 3  11:00
   TIME INTO   AZIMUTH  ELEVATION  HEIGHT      X        Y          HEIGHT    VELOCITY  HEADING
    FLIGHT     -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
   -MINUTES-
     0.00      999.00    999.00      0.00      0.0      0.0
                                                                  150.00      6.39    350.84
     0.50      350.94     46.88    300.00    -44.6    277.5
                                                                  450.00      8.95    339.95
     1.00      344.58     41.78    600.00   -179.3    647.3
                                                                  750.00     11.18      4.83
     1.50      353.15     38.16    900.00   -138.0   1137.3
                                                                 1050.00     16.58     18.46
     2.00        2.91     33.24   1200.00     93.0   1829.1
                                                                 1350.00     28.69     20.58
     2.50       10.11     26.13   1500.00    536.8   3011.0
                                                                 1650.00     18.71     25.80
     3.00       13.42     25.02   1800.00    895.1   3752.2
                                                                 1950.00     25.16     30.38
     3.50       17.18     23.09   2100.00   1455.0   4707.1
                                                                 2250.00     27.12     33.38
     4.00       20.32     21.54   2400.00   2111.5   5703.3
                                                                 2550.00     26.77     38.92
     4.50       23.31     20.54   2700.00   2851.6   6619.5
                                                                 2850.00     24.16     39.15
     5.00       25.33     20.02   3000.00   3522.6   7443.8
                                                                 3150.00     25.56     45.31
     5.50       27.70     19.54   3300.00   4322.4   8234.7
                                                                 3450.00     26.47     46.42
     6.00       29.76     19.08   3600.00   5166.3   9037.6
                                                                 3750.00     26.11     36.91
     6.50       30.47     18.66   3900.00   5856.3   9956.3
                                                                 4050.00     25.17     28.75
     7.00       30.32     18.36   4200.00   6388.9  10927.1
                                                                 4350.00     25.76     35.43
     7.50       30.74     18.08   4500.00   7045.8  11850.5
                                                                 4650.00     28.29     21.28
     8.00       29.96     17.73   4800.00   7497.8  13010.5
                                                                 4950.00     31.34      7.27
     8.50       28.09     17.38   5100.00   7672.4  14378.4
                                                                 5250.00     27.90     30.51
     9.00       28.26     17.13   5400.00   8295.6  15436.0
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C-8 2/2/75            FLIGHT NO. 4  16:47
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y           HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-      -MPH-    -DEG. -
    -MINUTES-
      0.00     999.00    999.00      0.00      0.0     0.0
                                                                    150.00      12.39      1.17
      0.50       1.17     28.82    300.00     11.1   545.3
                                                                    450.00      12.10      3.72
      1.00       2.43     29.12    600.00     45.7  1076.4
                                                                    750.00      10.81      1.42
      1.50       2.12     30.10    900.00     57.4  1551.9
                                                                   1050.00      13.14      1.82
      2.00       2.04     29.39   1200.00     75.8  2129.7
                                                                   1350.00      15.92     13.79
      2.50       4.94     28.01   1500.00    242.8  2810.1
                                                                   1650.00      17.35     22.81
      3.00       8.72     26.86   1800.00    538.8  3513.8
                                                                   1950.00      17.29     24.71
      3.50      11.52     26.08   2100.00    856.9  4204.9
                                                                   2250.00      19.23     26.67
      4.00      14.00     25.15   2400.00   1236.7  4961.1
                                                                   2550.00      22.92     31.38
      4.50      16.84     23.94   2700.00   1761.8  5822.0
                                                                   2850.00      22.82     34.00
      5.00      19.25     23.06   3000.00   2323.4  6654.6
                                                                   3150.00      21.35     35.98
      5.50      21.20     22.54   3300.00   2875.4  7414.9
                                                                   3450.00      21.53     41.01
      6.00      23.28     22.14   3600.00   3497.1  8129.6
                                                                   3750.00      24.41     40.16
      6.50      25.09     21.54   3900.00   4189.9  8950.4
                                                                   4050.00      24.65     43.82
      7.00      26.92     21.05   4200.00   4940.9  9732.8
                                                                   4350.00      23.56     49.36
      7.50      28.83     20.75   4500.00   5727.7 10408.1
                                                                   4650.00      23.06     59.14
      8.00      31.13     20.61   4800.00   6598.7 10928.4
                                                                   4950.00      24.92     79.90
      8.50      34.63     20.68   5100.00   7678.3 11120.6
                                                                   5250.00      19.87     63.42
      9.00      36.32     20.71   5400.00   8460.2 11511.6
                                                                   5550.00      23.87     77.19
      9.50      38.93     20.69   5700.00   9484.2 11744.4
                                                                   5850.00      23.74     83.49
     10.00      41.58     20.73   6000.00  10521.9 11862.7
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C-B 2/3/75 FLIGHT NO. 1 05:12

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG. -	ELEVATION -DEG. -	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG. -
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	3.60	248.35
0.50	248.42	62.19	300.00	-147.2	-58.3			
						450.00	3.41	18.70
1.00	310.31	77.81	600.00	-99.0	83.9			
						750.00	20.73	1.67
1.50	355.91	42.04	900.00	-72.4	995.8			
						1050.00	19.04	4.63
2.00	359.92	33.25	1200.00	-4.7	1830.7			
						1350.00	22.25	21.99
2.50	7.53	28.51	1500.00	361.9	2738.3			
						1650.00	23.80	16.34
3.00	9.95	25.35	1800.00	656.5	3743.0			
						1950.00	22.76	33.05
3.50	14.71	23.91	2100.00	1202.8	4582.5			
						2250.00	19.88	39.87
4.00	18.56	23.42	2400.00	1763.7	5253.8			
						2550.00	25.20	42.83
4.50	22.54	22.35	2700.00	2517.4	6066.8			
						2850.00	21.50	49.04
5.00	25.80	22.00	3000.00	3231.8	6686.8			
						3150.00	22.62	52.50
5.50	28.88	21.62	3300.00	4021.6	7292.7			
						3450.00	22.22	53.48
6.00	31.41	21.32	3600.00	4807.4	7874.5			
						3750.00	16.64	70.18
6.50	34.09	21.69	3900.00	5496.0	8122.6			
						4050.00	18.09	71.60
7.00	36.75	21.90	4200.00	6251.5	8373.9			
						4350.00	18.63	72.04
7.50	39.19	22.02	4500.00	7031.3	8626.5			
						4650.00	17.20	72.24
8.00	41.20	22.19	4800.00	7751.8	8857.3			
						4950.00	19.86	76.53
8.50	43.52	22.21	5100.00	8601.9	9060.7			
						5250.00	18.81	74.69
9.00	45.38	22.24	5400.00	9400.3	9279.2			
						5550.00	21.08	75.43
9.50	47.28	22.13	5700.00	10298.2	9512.5			

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C-B 2/3/75            FLIGHT NO. 2  08:03
    TIME INTO  AZIMUTH   ELEVATION  HEIGHT       X       Y          HEIGHT     VELOCITY   HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-    -FEET-  -FEET-        -FEET-     -MPH-      -DEG. -
    -MINUTES-
      0.00     999.00    999.00       0.00      0.0      0.0
                                                                    150.00       4.83     336.82
      0.50     336.92     54.72     300.00    -83.5    195.2
                                                                    450.00       8.94       7.05
      1.00     356.63     45.66     600.00    -35.2    585.5
                                                                    750.00      15.33      10.12
      1.50       3.82     35.71     900.00     83.4   1249.6
                                                                   1050.00      24.21      21.91
      2.00      12.13     27.67    1200.00    480.9   2238.0
                                                                   1350.00      28.81      26.52
      2.50      17.25     23.02    1500.00   1046.9   3372.3
                                                                   1650.00      28.26      26.74
      3.00      19.72     20.71    1800.00   1606.5   4482.9
                                                                   1950.00      27.71      28.06
      3.50      21.42     19.38    2100.00   2180.3   5558.9
                                                                   2250.00      27.51      32.73
      4.00      23.32     18.53    2400.00   2834.6   6577.0
                                                                   2550.00      26.97      33.90
      4.50      24.82     17.96    2700.00   3496.6   7562.0
                                                                   2850.00      26.50      40.49
      5.00      26.73     17.60    3000.00   4253.8   8448.7
                                                                   3150.00      27.08      42.59
      5.50      28.49     17.28    3300.00   5060.3   9325.8
                                                                   3450.00      27.03      41.96
      6.00      29.84     17.01    3600.00   5855.6  10210.2
                                                                   3750.00      27.51      42.78
      6.50      31.04     16.76    3900.00   6677.7  11098.7
                                                                   4050.00      26.90      43.77
      7.00      32.10     16.58    4200.00   7496.5  11953.2
                                                                   4350.00      27.45      44.08
      7.50      33.04     16.40    4500.00   8336.6  12820.7
                                                                   4650.00      27.42      45.83
      8.00      33.97     16.25    4800.00   9202.0  13661.2
                                                                   4950.00      27.38      46.36
      8.50      34.81     16.12    5100.00  10073.8  14492.5
                                                                   5250.00      26.70      47.22
      9.00      35.58     16.03    5400.00  10936.0  15290.3
                                                                   5550.00      26.31      42.65
      9.50      35.99     15.95    5700.00  11720.4  16141.7
                                                                   5850.00      26.02      44.29
     10.00      36.44     15.89    6000.00  12519.9  16961.0
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C-B 2/3/75 FLIGHT NO. 3 11:00

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG.-	ELEVATION -DEG.-	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG.-
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	2.44	224.05
0.50	224.11	70.33	300.00	-74.6	-77.1			
						450.00	0.85	53.26
1.00	219.21	83.32	600.00	-44.5	-54.6			
						750.00	3.38	14.30
1.50	355.11	84.32	900.00	-7.8	89.4			
						1050.00	6.20	12.39
2.00	8.12	73.34	1200.00	50.8	355.8			
						1350.00	6.79	11.09
2.50	9.47	66.33	1500.00	108.2	648.9			
						1650.00	9.48	19.34
3.00	13.30	59.25	1800.00	246.4	1042.6			
						1950.00	11.81	22.89
3.50	16.43	52.95	2100.00	448.5	1521.2			
						2250.00	14.23	25.30
4.00	18.94	47.41	2400.00	716.2	2087.4			
						2550.00	17.03	27.86
4.50	21.20	42.48	2700.00	1066.4	2749.9			
						2850.00	18.80	30.43
5.00	23.22	38.53	3000.00	1485.5	3463.3			
						3150.00	19.33	33.01
5.50	25.02	35.61	3300.00	1948.9	4176.5			
						3450.00	21.47	34.56
6.00	26.64	33.01	3600.00	2484.8	4954.5			
						3750.00	21.32	36.33
6.50	28.04	31.09	3900.00	3040.5	5710.1			
						4050.00	23.10	37.41
7.00	29.31	29.34	4200.00	3658.0	6517.4			
						4350.00	24.40	39.20
7.50	30.55	27.81	4500.00	4336.7	7349.2			
						4650.00	24.65	40.24
8.00	31.64	26.56	4800.00	5037.3	8177.2			
						4950.00	24.76	41.08
8.50	32.60	25.53	5100.00	5753.3	8998.3			
						5250.00	24.37	42.71
9.00	33.52	24.71	5400.00	6480.7	9786.3			
						5550.00	23.35	43.36
9.50	34.31	24.09	5700.00	7186.3	10533.3			
						5850.00	22.70	44.11
10.00	35.02	23.60	6000.00	7881.5	11250.4			

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C-B 2/3/75            FLIGHT NO. 4  16:47
     TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
      FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
     -MINUTES-
       0.00     999.00    999.00      0.00      0.0     0.0
                                                                    150.00      9.75     51.21
       0.50      51.22     34.96    300.00    334.5   268.9
                                                                    450.00     10.66     44.47
       1.00      47.70     33.79    600.00    663.2   603.7
                                                                    750.00     11.29     45.16
       1.50      46.80     32.87    900.00   1015.4   953.8
                                                                   1050.00     15.18     32.31
       2.00      42.12     30.39   1200.00   1372.4  1518.3
                                                                   1350.00     15.55     26.68
       2.50      38.27     28.95   1500.00   1679.6  2129.6
                                                                   1650.00     11.53     22.99
       3.00      35.88     29.33   1800.00   1877.7  2596.5
                                                                   1950.00     13.67     32.77
       3.50      35.39     28.90   2100.00   2203.3  3102.2
                                                                   2250.00     14.50     46.64
       4.00      37.00     28.44   2400.00   2667.0  3540.1
                                                                   2550.00     14.74     48.00
       4.50      38.40     28.04   2700.00   3149.1  3974.2
                                                                   2850.00     10.60     51.16
       5.00      39.47     28.50   3000.00   3512.5  4266.7
                                                                   3150.00      6.84     70.35
       5.50      41.00     29.70   3300.00   3795.9  4367.9
                                                                   3450.00     11.22     59.55
       6.00      42.44     29.92   3600.00   4221.7  4618.1
                                                                   3750.00     20.22     49.99
       6.50      43.38     28.65   3900.00   4903.2  5190.1
                                                                   4050.00     21.62     57.24
       7.00      45.00     27.51   4200.00   5703.0  5704.7
                                                                   4350.00     27.71     55.07
       7.50      46.32     25.90   4500.00   6702.7  6402.8
                                                                   4650.00     24.67     53.38
       8.00      47.06     24.89   4800.00   7574.1  7050.4
                                                                   4950.00     22.97     51.54
       8.50      47.46     24.19   5100.00   8365.8  7679.0
                                                                   5250.00     21.11     42.02
       9.00      47.05     23.74   5400.00   8987.7  8369.1
                                                                   5550.00     15.71     37.62
       9.50      46.55     23.74   5700.00   9409.5  8916.5
                                                                   5850.00     22.70     47.51
      10.00      46.62     23.26   6000.00  10146.0  9590.9
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C-B 2/4/75            FLIGHT NO. 1  05:09
    TIME INTO   AZIMUTH   ELEVATION   HEIGHT       X       Y            HEIGHT     VELOCITY   HEADING
     FLIGHT     -DEG. -    -DEG. -    -FEET-    -FEET-  -FEET-          -FEET-      -MPH-      -DEG. -
    -MINUTES-
       0.00     999.00     999.00       0.00       0.0      0.0
                                                                        150.00       5.21     248.13
       0.50     248.20      52.60     300.00    -213.0    -85.4
                                                                        450.00       4.16     260.52
       1.00     253.70      55.65     600.00    -393.6   -115.5
                                                                        750.00       3.12     330.72
       1.50     270.60      62.90     900.00    -460.8      4.4
                                                                       1050.00       5.86      37.33
       2.00     304.60      72.90    1200.00    -304.3    209.5
                                                                       1350.00       6.67      44.45
       2.50     346.80      74.00    1500.00     -98.8    419.0
                                                                       1650.00      16.32      26.27
       3.00      11.65      58.92    1800.00     219.1   1063.1
                                                                       1950.00       6.69      50.26
       3.50      19.60      57.70    2100.00     445.4   1251.2
                                                                       2250.00      16.62      42.52
       4.00      27.70      49.90    2400.00     939.6   1790.1
                                                                       2550.00      12.14      40.66
       4.50      30.40      46.70    2700.00    1287.7   2195.3
                                                                       2850.00      18.71      59.95
       5.00      37.50      42.40    3000.00    2000.3   2607.5
                                                                       3150.00      12.45      73.36
       5.50      42.42      41.40    3300.00    2525.3   2764.4
                                                                       3450.00       8.69      75.37
       6.00      45.35      41.50    3600.00    2895.2   2860.9
                                                                       3750.00      17.89     207.04
       6.50      49.60      49.50    3900.00    2537.1   2160.0
                                                                       4050.00      11.50      54.90
       7.00      50.30      47.60    4200.00    2951.3   2451.0
                                                                       4350.00      21.29     233.06
       7.50      49.40      57.20    4500.00    2202.5   1888.4
                                                                       4650.00      10.86      57.53
       8.00      50.55      54.90    4800.00    2605.6   2144.8
                                                                       4950.00      43.79      51.36
       8.50      50.85      43.90    5100.00    4110.5   3347.6
                                                                       5250.00      75.21      50.58
       9.00      50.75      32.10    5400.00    6666.9   5448.9
                                                                       5550.00      17.45      54.03
       9.50      51.02      31.30    5700.00    7288.4   5899.9
                                                                       5850.00      22.18      50.26
      10.00      50.95      30.10    6000.00    8038.9   6523.7
```

```
C-B 2/4/75             FLIGHT NO. 2  07:57
    TIME INTO  AZIMUTH   ELEVATION HEIGHT      X       Y         HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-  -FEET-  -FEET-       -FEET-     -MPH-     -DEG. -
    -MINUTES-
       0.00    999.00    999.00      0.00     0.0     0.0
                                                                150.00       6.91     31.01
       0.50     31.02     44.62    300.00   156.7   260.6
                                                                450.00      11.11    306.14
       1.00    336.65     45.09    600.00  -237.7   549.0
                                                                750.00      10.76     10.64
       1.50    351.64     41.28    900.00  -150.3  1014.4
                                                               1050.00      13.74     15.54
       2.00      0.42     36.93   1200.00    11.7  1596.9
                                                               1350.00      14.13     19.88
       2.50      5.84     34.38   1500.00   223.1  2181.5
                                                               1650.00      14.41     25.53
       3.00     10.22     32.76   1800.00   496.4  2753.6
                                                               1950.00      14.03     25.02
       3.50     12.88     31.72   2100.00   757.4  3312.9
                                                               2250.00      13.77     28.31
       4.00     15.20     31.06   2400.00  1044.8  3846.4
                                                               2550.00      14.93     38.70
       4.50     18.47     30.44   2700.00  1455.7  4359.1
                                                               2850.00      16.30     41.60
       5.00     21.54     29.69   3000.00  1931.9  4895.5
                                                               3150.00      17.64     41.88
       5.50     24.12     28.83   3300.00  2450.1  5473.2
                                                               3450.00      18.10     42.23
       6.00     26.22     28.05   3600.00  2985.2  6062.8
                                                               3750.00      17.21     43.67
       6.50     27.96     27.53   3900.00  3508.3  6610.7
                                                               4050.00      15.11     46.08
       7.00     29.42     27.36   4200.00  3987.1  7071.8
                                                               4350.00      17.08     45.98
       7.50     30.81     26.98   4500.00  4527.7  7594.0
                                                               4650.00      18.51     51.28
       8.00     32.51     26.55   4800.00  5163.1  8103.3
                                                               4950.00      20.76     52.25
       8.50     34.20     25.97   5100.00  5885.6  8662.5
                                                               5250.00      21.49     50.04
       9.00     35.50     25.38   5400.00  6610.3  9269.6
```

```
C-B 2/4/75           FLIGHT NO. 3  10:52
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y         HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-  -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00    999.00    999.00     0.00     0.0     0.0
                                                                 150.00      8.42      8.14
       0.50      8.14     39.00   300.00    52.5   366.8
                                                                 450.00     12.22      7.70
       1.00      7.88     33.46   600.00   124.5   899.5
                                                                 750.00     14.87     11.27
       1.50      9.30     29.96   900.00   252.3  1541.2
                                                                1050.00     13.39     13.72
       2.00     10.51     29.18  1200.00   392.0  2113.3
                                                                1350.00     11.81     14.36
       2.50     11.26     29.35  1500.00   520.9  2616.8
                                                                1650.00     13.48     18.30
       3.00     12.54     28.93  1800.00   707.1  3179.7
                                                                1950.00     13.30     28.28
       3.50     14.92     28.78  2100.00   984.4  3695.0
                                                               .2250.00     13.46     33.92
       4.00     17.44     28.68  2400.00  1315.0  4186.7
                                                                2550.00     19.18     32.53
       4.50     19.86     27.41  2700.00  1768.9  4898.2
                                                                2850.00     18.59     30.65
       5.00     21.32     26.52  3000.00  2185.8  5601.8
                                                                3150.00     16.89     18.86
       5.50     21.05     26.04  3300.00  2426.0  6304.9
                                                                3450.00     16.31     11.96
       6.00     20.18     25.75  3600.00  2574.8  7007.1
                                                                3750.00     16.78      2.30
       6.50     18.59     25.52  3900.00  2604.4  7744.8
                                                                4050.00     13.44     36.14
       7.00     19.76     25.68  4200.00  2953.2  8222.4
                                                                4350.00     12.08     29.38
       7.50     20.31     25.92  4500.00  3214.0  8685.6
                                                                4650.00     13.36     36.74
       8.00     21.28     26.04  4800.00  3565.5  9156.5
                                                                4950.00     14.55     41.04
       8.50     22.47     26.06  5100.00  3986.0  9639.5
                                                                5250.00     16.05     34.35
       9.00     23.22     25.90  5400.00  4384.7 10222.6
                                                                5550.00     15.49     25.81
       9.50     23.37     25.78  5700.00  4681.5 10836.1
```

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C-B 2/4/75              FLIGHT NO. 4  16:50
     TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y            HEIGHT     VELOCITY  HEADING
      FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-          -FEET-     -MPH-     -DEG. -
     -MINUTES-
        0.00    999.00    999.00      0.00      0.0     0.0
                                                                     150.00       6.69     42.02
        0.50     42.03     45.54    300.00    197.1   218.8
                                                                     450.00      14.11     45.73
        1.00     44.55     33.26    600.00    641.8   652.2
                                                                     750.00      18.79     47.21
        1.50     45.82     27.34    900.00   1248.5  1213.6
                                                                    1050.00      19.87     45.39
        2.00     45.68     24.65   1200.00   1871.0  1827.7
                                                                    1350.00      19.24     44.81
        2.50     45.47     23.43   1500.00   2467.7  2428.3
                                                                    1650.00      17.02     46.30
        3.00     45.62     23.15   1800.00   3009.1  2945.5
                                                                    1950.00      15.10     51.19
        3.50     46.38     23.32   2100.00   3526.8  3361.9
                                                                    2250.00      13.31     59.02
        4.00     47.73     23.79   2400.00   4028.8  3663.3
                                                                    2550.00      15.15     55.89
        4.50     48.62     23.86   2700.00   4580.7  4036.9
                                                                    2850.00      29.05     51.73
        5.00     49.16     22.12   3000.00   5584.2  4828.5
                                                                    3150.00      14.46     54.57
        5.50     49.59     22.38   3300.00   6102.8  5197.4
                                                                    3450.00      26.06     54.05
        6.00     50.15     21.46   3600.00   7031.2  5870.6
                                                                    3750.00      29.27     54.44
        6.50     50.68     20.48   3900.00   8078.8  6619.4
                                                                    4050.00      30.91     52.31
        7.00     50.87     19.59   4200.00   9155.2  7450.8
                                                                    4350.00      34.00     47.39
        7.50     50.48     18.70   4500.00  10256.2  8463.5
                                                                    4650.00      38.38     45.40
        8.00     49.91     17.77   4800.00  11458.8  9649.0
                                                                    4950.00      38.38     41.69
        8.50     49.08     17.03   5100.00  12582.0 10910.2
                                                                    5250.00      31.11     39.02
        9.00     48.32     16.70   5400.00  13443.8 11973.4
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C-B 2/6/75            FLIGHT NO 1   05.20
   TIME INTO   AZIMUTH    ELEVATION   HEIGHT       X        Y            HEIGHT      VELOCITY   HEADING
    FLIGHT     -DEG. -     -DEG. -    -FEET-    -FEET-   -FEET-          -FEET-      -MPH-      -DEG. -
   -MINUTES-
      0.00      999.00     999.00        0.00       0.0      0.0
                                                                         150.00        2.28       30.49
      0.50       30.50      71.50      300.00      51.0     86.6
                                                                         450.00        2.20       31.51
      1.00       31.00      71.80      600.00     101.7    169.2
                                                                         750.00        3.12        4.10
      1.50       20.00      70.10      900.00     111.5    306.4
                                                                        1050.00        2.79       20.36
      2.00       20.10      69.50     1200.00     154.3    421.6
                                                                        1350.00        2.66       94.44
      2.50       33.30      71.80     1500.00     270.9    412.6
                                                                        1650.00        2.28      111.43
      3.00       44.10      73.80     1800.00     364.2    375.9
                                                                        1950.00        4.61      128.62
      3.50       64.50      74.60     2100.00     522.5    249.4
                                                                        2250.00        5.61      135.94
      4.00       84.10      73.80     2400.00     694.2     71.9
                                                                        2550.00        9.96       80.96
      4.50       82.90      67.20     2700.00    1126.9    140.7
                                                                        2850.00        9.59       69.55
      5.00       79.30      62.70     3000.00    1522.2    288.0
                                                                        3150.00       12.89       60.89
      5.50       74.40      57.60     3300.00    2017.8    563.9
                                                                        3450.00       14.55       69.68
      6.00       73.30      52.80     3600.00    2618.1    786.1
                                                                        3750.00       13.99       65.10
      6.50       71.80      49.40     3900.00    3176.3   1045.1
                                                                        4050.00       14.65       67.45
      7.00       71.10      46.50     4200.00    3771.6   1292.3
                                                                        4350.00       17.50       59.30
      7.50       69.20      43.50     4500.00    4433.9   1685.4
                                                                        4650.00       12.78       44.09
      8.00       66.60      42.40     4800.00    4825.2   2089.3
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I-B 2/6/75          FLIGHT NO. 3   11:10
 TIME INTO   AZIMUTH   ELEVATION   HEIGHT     X       Y           HEIGHT     VELOCITY   HEADING
  FLIGHT     -DEG. -    -DEG. -    -FEET-  -FEET-  -FEET-         -FEET-     -MPH-      -DEG -
 -MINUTES-
   0.00      999.00     999.00      0.00     0.0     0.0
                                                                  150.00      8.30       55.24
   0.50       55.26      39.42    300.00   300.0   208.1
                                                                  450.00     10.42       53.68
   1.00       54.39      36.08    600.00   669.5   479.7
                                                                  750.00      7.67       49.94
   1.50       53.10      37.80    900.00   928.0   697.0
                                                                 1050.00      8.43       35.77
   2.00       48.93      38.32   1200.00  1144.9   998.0
                                                                 1350.00      4.88       11.74
   2.50       44.54      41.52   1500.00  1188.5  1208.1
                                                                 1650.00      8.39       26.02
   3.00       41.26      41.32   1800.00  1350.4  1539.7
                                                                 1950.00      5.56       17.94
   3.50       38.82      42.72   2100.00  1425.8  1772.5
                                                                 2250.00      5.71       25.66
   4.00       37.52      43.61   2400.00  1534.6  1999.0
                                                                 2550.00      1.85      295.53
   4.50       35.70      47.16   2700.00  1461.2  2034.0
                                                                 2850.00      4.46       74.81
   5.00       38.37      48.45   3000.00  1650.7  2085.5
                                                                 3150.00      4.01       91.95
   5.50       41.31      50.02   3300.00  1827.0  2079.4
                                                                 3450.00      5.12      118.94
   6.00       45.78      51.89   3600.00  2024.1  1970.4
                                                                 3750.00     11.59      144.72
   6.50       56.18      54.42   3900.00  2318.6  1553.9
                                                                 4050.00     14.87      154.51
   7.00       69.68      56.58   4200.00  2599.9   963.4
                                                                 4350.00     10.28      140.58
   7.50       78.01      56.75   4500.00  2887.0   613.9
                                                                 4650.00     14.78      118.04
   8.00       84.93      54.11   4800.00  3461.0   308.0
                                                                 4950.00     16.01       99.77
   8.50       87.42      50.81   5100.00  4155.1   188.4
                                                                 5250.00     15.81      103.57
   9.00       89.72      48.19   5400.00  4831.3    25.0
                                                                 5550.00     14.38      110.38
   9.50       92.08      46.41   5700.00  5424.3  -195.4
                                                                 5850.00     13.35      113.94
  10.00       94.18      45.12   6000.00  5960.9  -433.8
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1-8 2/6/75 FLIGHT NO. 4 16:59

TIME INTO FLIGHT -MINUTES-	AZIMUTH -DEG.-	ELEVATION -DEG.-	HEIGHT -FEET-	X -FEET-	Y -FEET-	HEIGHT -FEET-	VELOCITY -MPH-	HEADING -DEG.-
0.00	999.00	999.00	0.00	0.0	0.0			
						150.00	10.57	10.79
0.50	10.79	32.82	300.00	87.1	457.0			
						450.00	9.81	8.69
1.00	9.78	33.79	600.00	152.3	883.8			
						750.00	7.96	13.73
1.50	10.89	35.84	900.00	235.4	1223.9			
						1050.00	6.46	21.85
2.00	12.92	38.18	1200.00	341.2	1487.8			
						1350.00	4.79	14.32
2.50	13.09	40.82	1500.00	393.3	1691.9			
						1650.00	8.95	12.44
3.00	12.97	40.20	1800.00	478.1	2076.3			
						1950.00	9.11	17.64
3.50	13.71	39.70	2100.00	599.6	2458.1			
						2250.00	14.21	22.09
4.00	15.37	37.31	2400.00	834.8	3037.5			
						2550.00	18.19	37.80
4.50	19.86	34.69	2700.00	1325.3	3669.7			
						2850.00	16.07	44.41
5.00	23.56	33.38	3000.00	1820.1	4174.8			
						3150.00	11.81	57.71
5.50	26.91	33.47	3300.00	2259.2	4452.2			
						3450.00	11.09	58.16
6.00	29.59	33.62	3600.00	2673.7	4709.6			
						3750.00	9.57	44.97
6.50	30.69	33.82	3900.00	2971.4	5007.5			
						4050.00	9.61	42.12
7.00	31.46	33.96	4200.00	3254.9	5321.1			
						4350.00	11.57	37.42
7.50	31.91	33.72	4500.00	3564.2	5725.2			
						4650.00	12.88	41.35
8.00	32.64	33.32	4800.00	3938.5	6150.5			
						4950.00	13.78	49.65
8.50	33.93	32.90	5100.00	4400.7	6543.1			
						5250.00	17.91	74.25
9.00	37.37	32.43	5400.00	5159.1	6756.8			
						5550.00	21.31	82.36
9.50	41.51	31.82	5700.00	6088.5	6881.3			
						5850.00	21.19	82.63
10.00	45.06	31.20	6000.00	7013.4	7000.8			

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C-R 2/7/75          FLIGHT NO 2  08:40
    TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y            HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-          -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0. 00   999. 00   999. 00     0. 00      0. 0     0. 0
                                                                    150. 00      4. 69   315. 11
       0. 50   315. 20    55. 50   300. 00   -145. 5   146. 2
                                                                    450. 00      9. 16    19. 15
       1. 00   358. 62    48. 72   600. 00    -13. 3   526. 7
                                                                    750. 00     15. 12    24. 84
       1. 50    13. 25    37. 78   900. 00    266. 1  1130. 5
                                                                   1050. 00     16. 17    29. 83
       2. 00    19. 54    32. 91  1200. 00    620. 2  1747. 9
                                                                   1350. 00     21. 95    40. 21
       2. 50    26. 59    28. 36  1500. 00   1243. 9  2485. 6
                                                                   1650. 00     26. 08    55. 52
       3. 00    34. 94    25. 21  1800. 00   2189. 9  3135. 2
                                                                   1950. 00     26. 72    62. 31
       3. 50    41. 28    23. 21  2100. 00   3231. 1  3681. 5
                                                                   2250. 00     27. 09    69. 96
       4. 00    46. 78    21. 90  2400. 00   4350. 9  4089. 9
                                                                   2550. 00     30. 37    71. 38
       4. 50    51. 21    20. 54  2700. 00   5617. 2  4516. 3
                                                                   2850. 00     32. 73    79. 64
       5. 00    55. 84    19. 44  3000. 00   7034. 1  4775. 1
                                                                   3150. 00     33. 93    81. 29
       5. 50    59. 57    18. 49  3300. 00   8509. 8  5000. 9
                                                                   3450. 00     32. 27    80. 45
       6. 00    62. 16    17. 81  3600. 00   9909. 9  5236. 3
                                                                   3750. 00     30. 98    82. 74
       6. 50    64. 36    17. 34  3900. 00  11261. 9  5408. 4
                                                                   4050. 00     28. 60    80. 56
       7. 00    65. 83    17. 04  4200. 00  12503. 4  5614. 6
                                                                   4350. 00     31. 48    87. 43
       7. 50    67. 78    16. 70  4500. 00  13887. 0  5676. 4
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L-B 2/7/75              FLIGHT NO 3  11:01
   TIME INTO  AZIMUTH   ELEVATION  HEIGHT      X       Y           HEIGHT    VELOCITY  HEADING
    FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
   -MINUTES-
      0.00     999.00     999.00      0.00      0.0      0.0
                                                                   150.00     27.39     14.16
      0.50      14.16      13.98    300.00    294.8   1168.7
                                                                   450.00     17.81     37.92
      1.00      23.49      17.12    600.00    776.4   1786.9
                                                                   750.00     23.91     31.84
      1.50      26.42      16.74    900.00   1331.4   2680.4
                                                                  1050.00     21.69     56.48
      2.00      33.56      17.32   1200.00   2127.3   3207.5
                                                                  1350.00     23.63     68.89
      2.50      40.86      17.58   1500.00   3097.4   3581.8
                                                                  1650.00     25.13     85.11
      3.00      48.81      17.88   1800.00   4199.0   3675.9
                                                                  1950.00     21.53     81.81
      3.50      53.44      18.18   2100.00   5136.8   3810.8
                                                                  2250.00     23.16     87.49
      4.00      57.95      18.29   2400.00   6155.0   3855.2
                                                                  2550.00     22.05     94.58
      4.50      62.07      18.52   2700.00   7121.9   3777.5
                                                                  2850.00     25.63     90.70
      5.00      65.49      18.31   3000.00   8249.8   3763.5
                                                                  3150.00     27.21     88.16
      5.50      68.09      17.96   3300.00   9446.3   3801.8
                                                                  3450.00     24.83     85.71
      6.00      69.78      17.78   3600.00  10535.5   3883.3
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C-B 2/7/75            FLIGHT NO. 4  16:55
  TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X        Y         HEIGHT    VELOCITY  HEADING
   FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
  -MINUTES-
     0.00    999.00    999.00      0.00      0.0      0.0
                                                                150.00     16.83     28.33
     0.50     28.34     22.06    300.00    351.4    651.7
                                                                450.00     26.81     34.47
     1.00     32.11     17.38    600.00   1019.0   1624.1
                                                                750.00     27.47     40.12
     1.50     35.21     16.10    900.00   1797.9   2548.4
                                                               1050.00     17.81     65.46
     2.00     41.15     17.46   1200.00   2510.6   2873.7
                                                               1350.00     21.34     71.50
     2.50     47.01     17.88   1500.00   3401.3   3171.6
                                                               1650.00     24.83     83.46
     3.00     53.71     17.92   1800.00   4486.9   3296.0
                                                               1950.00     25.98     87.33
     3.50     59.26     17.78   2100.00   5629.0   3349.0
                                                               2250.00     28.03     86.80
     4.00     63.53     17.39   2400.00   6860.4   3417.8
                                                               2550.00     44.19     95.22
     4.50     69.79     16.07   2700.00   8796.8   3240.6
                                                               2850.00     17.81     81.63
     5.00     70.70     16.48   3000.00   9572.1   3354.6
                                                               3150.00     35.20     90.71
     5.50     73.32     15.87   3300.00  11120.8   3335.1
                                                               3450.00     34.90     89.71
     6.00     75.22     15.38   3600.00  12656.2   3342.5
                                                               3750.00     36.93     89.42
     6.50     76.78     14.89   3900.00  14280.9   3358.6
                                                               4050.00     34.85     98.59
     7.00     78.81     14.62   4200.00  15797.2   3129.3
                                                               4350.00     36.93     99.64
     7.50     80.69     14.32   4500.00  17399.0   2857.1
                                                               4650.00     36.73    102.50
     8.00     82.49     14.08   4800.00  18976.8   2507.0
                                                               4950.00     32.79    108.89
     8.50     84.29     14.01   5100.00  20341.8   2039.7
                                                               5250.00     29.88    104.99
     9.00     85.52     13.99   5400.00  21611.9   1699.4
                                                               5550.00     31.89    107.49
     9.50     86.83     13.93   5700.00  22950.0   1277.6
```

```
C-B 2/8/75              FLIGHT NO 1  05:01
 TIME INTO  AZIMUTH  ELEVATION  HEIGHT      X       Y          HEIGHT     VELOCITY   HEADING
  FLIGHT    -DEG. -   -DEG. -   -FEET-   -FEET-  -FEET-        -FEET-     -MPH-      -DEG. -
 -MINUTES-
    0.00    999.00    999.00      0.00      0.0     0.0
                                                                150.00     28.19      15.00
    0.50     15.00     13.60    300.00    321.0  1198.1
                                                                450.00     26.42      27.19
    1.00     20.90     14.10    600.00    852.2  2232.0
                                                                750.00     30.02      44.61
    1.50     29.30     13.90    900.00   1779.8  3172.3
                                                               1050.00     31.74      51.09
    2.00     35.30     13.60   1200.00   2866.4  4049.3
                                                               1350.00     25.39      68.34
    2.50     41.20     14.20   1500.00   3904.8  4461.7
                                                               1650.00     21.45      81.95
    3.00     46.50     15.10   1800.00   4839.3  4593.7
                                                               1950.00     20.88      93.92
    3.50     51.80     16.00   2100.00   5755.7  4530.9
                                                               2250.00     28.11      80.93
    4.00     55.90     15.90   2400.00   6977.1  4725.8
                                                               2550.00     34.31      82.09
    4.50     59.80     15.40   2700.00   8472.6  4933.4
                                                               2850.00     39.77      82.58
    5.00     63.20     14.70   3000.00  10208.0  5159.1
                                                               3150.00     39.12      85.72
    5.50     66.10     14.20   3300.00  11924.4  5287.3
                                                               3450.00     38.65      85.40
    6.00     68.30     13.80   3600.00  13619.4  5423.4
                                                               3750.00     46.66      85.54
    6.50     70.40     13.20   3900.00  15666.1  5582.5
                                                               4050.00     51.95      90.51
    7.00     72.80     12.60   4200.00  17951.6  5561.7
                                                               4350.00     50.32      98.02
    7.50     75.40     12.20   4500.00  20143.9  5252.4
```

```
C-B 2/28/75             FLIGHT NO. 2  08:10
     TIME INTO  AZIMUTH  ELLEVATION  HEIGHT      X        Y          HEIGHT    VELOCITY  HEADING
      FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-         -FEET-     -MPH-    -DEG. -
     -MINUTES-
        0.00     999.00    999.00       0.00      0.0      0.0
                                                                     150.00     25.54     19.17
        0.50      19.18     14.95     300.00    369.1   1061.4
                                                                     450.00     25.33     38.33
        1.00      28.72     15.21     600.00   1060.5   1935.8
                                                                     750.00     26.17     42.65
        1.50      33.49     15.10     900.00   1840.6   2782.5
                                                                    1050.00     26.79     60.25
        2.00      40.39     15.19    1200.00   2864.1   3367.4
                                                                    1350.00     28.06     74.38
        2.50      47.62     15.29    1500.00   4053.3   3699.7
                                                                    1650.00     27.50     77.67
        3.00      52.92     15.34    1800.00   5235.2   3957.9
                                                                    1950.00     25.53     86.66
        3.50      57.68     15.60    2100.00   6356.6   4023.3
                                                                    2250.00     28.45     77.75
        4.00      60.51     15.41    2400.00   7579.8   4288.7
                                                                    2550.00     29.44     88.47
        4.50      64.04     15.30    2700.00   8874.6   4323.1
                                                                    2850.00     27.77     78.38
        5.00      65.61     15.18    3000.00  10071.3   4569.1
                                                                    3150.00     32.86     96.83
        5.50      69.10     15.00    3300.00  11506.7   4397.0
                                                                    3450.00     34.12     89.54
        6.00      71.29     14.69    3600.00  13008.0   4408.9
                                                                    3750.00     37.54     90.62
        6.50      73.34     14.30    3900.00  14659.9   4390.9
                                                                    4050.00     37.57     92.45
        7.00      75.18     13.98    4200.00  16311.3   4320.0
                                                                    4350.00     35.92     89.75
        7.50      76.42     13.74    4500.00  17891.8   4326.7
```

```
C-B 2/8/75           FLIGHT NO. 3   10:50
   TIME INTO  AZIMUTH   ELEVATION  HEIGHT       X       Y          HEIGHT     VELOCITY   HEADING
    FLIGHT    -DEG. -    -DEG. -   -FEET-    -FEET-  -FEET-        -FEET-      -MPH-     -DEG. -
   -MINUTES-
      0.00     999.00    999.00      0.00       0.0     0.0
                                                                   150.00      18.64       2.82
      0.50       2.82     20.10    300.00      40.3   819.0
                                                                   450.00      23.68       7.48
      1.00       5.43     17.88    600.00     176.0  1851.9
                                                                   750.00      23.42      17.50
      1.50       9.73     17.38    900.00     486.0  2834.6
                                                                  1050.00      18.15      38.67
      2.00      15.90     18.46   1200.00     984.8  3458.0
                                                                  1350.00      23.12      50.75
      2.50      23.38     18.56   1500.00    1772.9  4101.6
                                                                  1650.00      23.82      64.73
      3.00      30.89     18.76   1800.00    2720.9  4549.1
                                                                  1950.00      25.28      74.94
      3.50      38.12     18.86   2100.00    3795.1  4837.9
                                                                  2250.00      27.02      77.82
      4.00      44.26     18.67   2400.00    4957.4  5088.6
                                                                  2550.00      26.30      79.62
      4.50      49.02     18.49   2700.00    6095.9  5297.0
                                                                  2850.00      28.88      88.76
      5.00      54.15     18.27   3000.00    7366.1  5324.4
                                                                  3150.00      28.60      91.12
      5.50      58.44     18.06   3300.00    8624.1  5299.6
                                                                  3450.00      28.67      93.81
      6.00      62.19     17.86   3600.00    9883.0  5215.5
                                                                  3750.00      31.20     108.45
      6.50      66.87     17.78   3900.00   11185.3  4780.8
                                                                  4050.00      25.60      82.81
      7.00      68.21     17.59   4200.00   12302.9  4921.5
```

```
C-D 2/8/75                  FLIGHT NO 4   16:57
     TIME INTO   AZIMUTH   ELEVATION   HEIGHT        X        Y            HEIGHT    VELOCITY   HEADING
      FLIGHT     -DEG. -    -DEG. -    -FEET-    -FEET-  -FEET-           -FEET-     -MPH-     -DEG -
     -MINUTES-
        0. 00    999. 00    999. 00      0. 00      0. 0      0. 0
                                                                            150. 00     14. 53     21. 44
        0. 50     21. 45     25. 15    300. 00    233. 7    594. 9
                                                                            450. 00     20. 15     33. 65
        1. 00     28. 55     21. 58    600. 00    725. 0   1332. 9
                                                                            750. 00     23. 10     35. 20
        1. 50     31. 22     19. 59    900. 00   1310. 8   2163. 2
                                                                           1050. 00     15. 81     65. 56
        2. 00     38. 43     20. 99   1200. 00   1944. 2   2450. 9
                                                                           1350. 00     13. 49     78. 27
        2. 50     44. 49     22. 60   1500. 00   2525. 4   2571. 6
                                                                           1650. 00     13. 41     91. 39
        3. 00     50. 63     24. 07   1800. 00   3115. 4   2557. 2
                                                                           1950. 00     15. 58     92. 37
        3. 50     56. 37     24. 71   2100. 00   3800. 2   2528. 7
                                                                           2250. 00     15. 57    100. 85
        4 00      61. 80     25. 31   2400. 00   4473. 0   2399. 6
                                                                           2550. 00     17. 27    100. 36
        4. 50     66. 58     25. 39   2700. 00   5220. 7   2262. 7
                                                                           2850. 00     22. 30    101. 60
        5. 00     71. 54     24. 72   3000. 00   6182. 0   2065. 3
                                                                           3150. 00     23. 39    101. 48
        5. 50     75. 51     23. 96   3300. 00   7190. 7   1860. 2
                                                                           3450. 00     24. 45    101. 26
        6. 00     78. 70     23. 18   3600. 00   8245. 9   1649. 9
                                                                           3750. 00     25. 09    103. 59
        6. 50     81. 53     22. 49   3900. 00   9318. 9   1390. 3
                                                                           4050. 00     27. 44    103. 53
        7. 00     83. 99     21. 71   4200. 00  10492. 7   1107. 6
                                                                           4350. 00     27. 66     89. 97
        7. 50     84. 61     20. 94   4500. 00  11709. 8   1108. 1
                                                                           4650. 00     26. 84     98. 94
        8. 00     85. 91     20. 40   4800. 00  12876. 4    924. 4
                                                                           4950. 00     15. 30    139. 10
        8. 50     88. 23     20. 95   5100. 00  13317. 0    415. 4
```

```
C-  2/9/75          FLIGHT NO. 1  05:03
   TIME INTO  AZIMUTH   ELEVATION  HEIGHT       X        Y              HEIGHT     VELOCITY   HEADING
    FLIGHT    -DEG. -    -DEG. -   -FEET-    -FEET-   -FEET-           -FEET-      -MPH-     -DEG. -
   -MINUTES-
      0.00     999.00     999.00      0.00      0.0      0.0
                                                                      150.00       22.73      17.79
      0.50      17.80      16.70    300.00    305.7    952.3
                                                                      450.00       40.43      23.57
      1.00      21.50      12.20    600.00   1017.1   2582.6
                                                                      750.00       39.37      25.92
      1.50      23.20      11.30    900.00   1774.4   4140.8
                                                                     1050.00       38.23      31.29
      2.00      25.40      11.00   1200.00   2648.1   5578.0
                                                                     1350.00       34.13      48.71
      2.50      29.90      11.20   1500.00   3776.4   6568.9
                                                                     1650.00       33.31      62.34
      3.00      35.00      11.50   1800.00   5074.7   7249.3
                                                                     1950.00       26.82      54.80
      3.50      37.30      11.90   2100.00   6039.0   7929.4
                                                                     2250.00       21.20      72.91
      4.00      40.20      12.60   2400.00   6930.5   8203.4
                                                                     2550.00       20.11      80.95
      4.50      43.10      13.30   2700.00   7804.6   8342.5
                                                                     2850.00       18.46      74.47
      5.00      45.10      13.90   3000.00   8587.2   8559.9
                                                                     3150.00       19.59      78.21
      5.50      47.20      14.40   3300.00   9430.9   8735.8
                                                                     3450.00       15.94      81.82
      6.00      48.90      15.00   3600.00  10125.0   8835.5
                                                                     3750.00       17.92      72.93
      6.50      50.20      15.40   3900.00  10878.7   9066.8
                                                                     4050.00       15.25      80.08
      7.00      51.50      15.90   4200.00  11539.7   9182.3
                                                                     4350.00       14.67      53.87
      7.50      51.60      16.30   4500.00  12060.9   9562.7
                                                                     4650.00       27.67      73.85
      8.00      53.20      16.20   4800.00  13230.4   9901.2
                                                                     4950.00       16.92      74.48
      8.50      54.10      16.50   5100.00  13947.7  10100.3
                                                                     5250.00       23.88      69.90
      9.00      55.00      16.50   5400.00  14934.3  10461.2
                                                                     5550.00       26.52      68.38
      9.50      55.80      16.40   5700.00  16019.2  10891.0
                                                                     5850.00       29.48      63.77
     10.00      56.30      16.20   6000.00  17182.9  11464.2
```

```
C-8 2/9/75             FLIGHT NO. 2  08:25
    TIME INTO  AZIMUTH   ELEVATION  HEIGHT      X       Y         HEIGHT     VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG. -   -FEET-   -FEET-  -FEET-       -FEET-      -MPH-    -DEG. -
    -MINUTES-
      0.00     999.00    999.00       0.00      0.0     0.0
                                                                  150.00       7.21    350.91
      0.50     351.01     43.42     300.00    -49.9   313.2
                                                                  450.00      18.51    356.20
      1.00     354.82     27.96     600.00   -103.4  1125.9
                                                                  750.00      20.66      3.80
      1.50     358.85     23.88     900.00    -43.2  2032.9
                                                                 1050.00      23.06      7.92
      2.00       1.82     21.55    1200.00     96.5  3037.7
                                                                 1350.00      25.56     18.59
      2.50       6.77     19.97    1500.00    455.1  4103.6
                                                                 1650.00      26.38     19.87
      3.00       9.29     18.88    1800.00    849.7  5195.4
                                                                 1950.00      24.24     23.67
      3.50      11.70     18.43    2100.00   1277.9  6172.2
                                                                 2250.00      25.33     27.11
      4.00      14.00     18.01    2400.00   1785.9  7164.3
                                                                 2550.00      25.26     27.83
      4.50      15.80     17.69    2700.00   2305.0  8147.3
                                                                 2850.00      28.25     28.99
      5.00      17.48     17.22    3000.00   2907.5  9234.5
                                                                 3150.00      31.56     32.25
      5.50      19.32     16.66    3300.00   3648.4 10408.8
                                                                 3450.00      31.99     35.81
      6.00      21.17     16.21    3600.00   4472.1 11550.1
                                                                 3750.00      33.50     37.97
      6.50      22.94     15.78    3900.00   5379.2 12712.2
```

```
L-B 2/9/75              FLIGHT NO 3  11.00
    TIME INTO  AZIMUTH   ELEVATION  HEIGHT     X       Y          HEIGHT    VELOCITY  HEADING
     FLIGHT    -DEG. -    -DEG -    -FEET-  -FEET-  -FEET-        -FEET-     -MPH-    -DEG. -
    -MINUTES-
       0.00      0.00       0.00      0.00     0.0     0.0 .
                                                                  150.00     19.39    347.39
       0.50    347.49      19.78    300.00  -185.7   832.6
                                                                  450.00     18.13    351.16
       1.00    349.31      19.99    600.00  -307.9  1620.7
                                                                  750.00     17.44    359.33
       1.50    352.52      20.49    900.00  -316.4  2388.1
                                                                 1050.00     15.96      9.71
       2.00    356.39      21.25   1200.00  -198.0  3080.1
                                                                 1350.00     24.83      7.82
       2.50    359.39      19.82   1500.00   -49.3  4162.4
                                                                 1650.00     26.11     13.94
       3.00      2.47      18.82   1800.00   227.6  5277.6
                                                                 1950.00     31.98     24.83
       3.50      7.12      17.64   2100.00   818.6  6554.5
                                                                 2250.00     26.58     26.82
       4.00     10.05      17.28   2400.00  1346.3  7598.2
```

APPENDIX B

Temperature Soundings Over Federal Oil Shale Tract C-b During the Period 20 October through 9 February 1975

In all soundings presented in this appendix, the following point symbology is adhered to:

△	Flight Number 1	nominally	0500 MST
□	Flight Number 2	nominally	0800 MST
⬡	Flight Number 3	nominally	1100 MST
◇	Flight Number 4	nominally	1700 MST

The ordinate of the graphs is the alimeter determined elevation above MSL (feet).

The abscissa of the graphs is the ambient air temperature (°C).

Unconnected (isolated) and expanded symbols plotted at the elevation of the base of the tower following the same above symbology are temperature measurements derived from a sling psychrometer a few feet above the ground, made at the same time the aircraft made its tower fly-by.

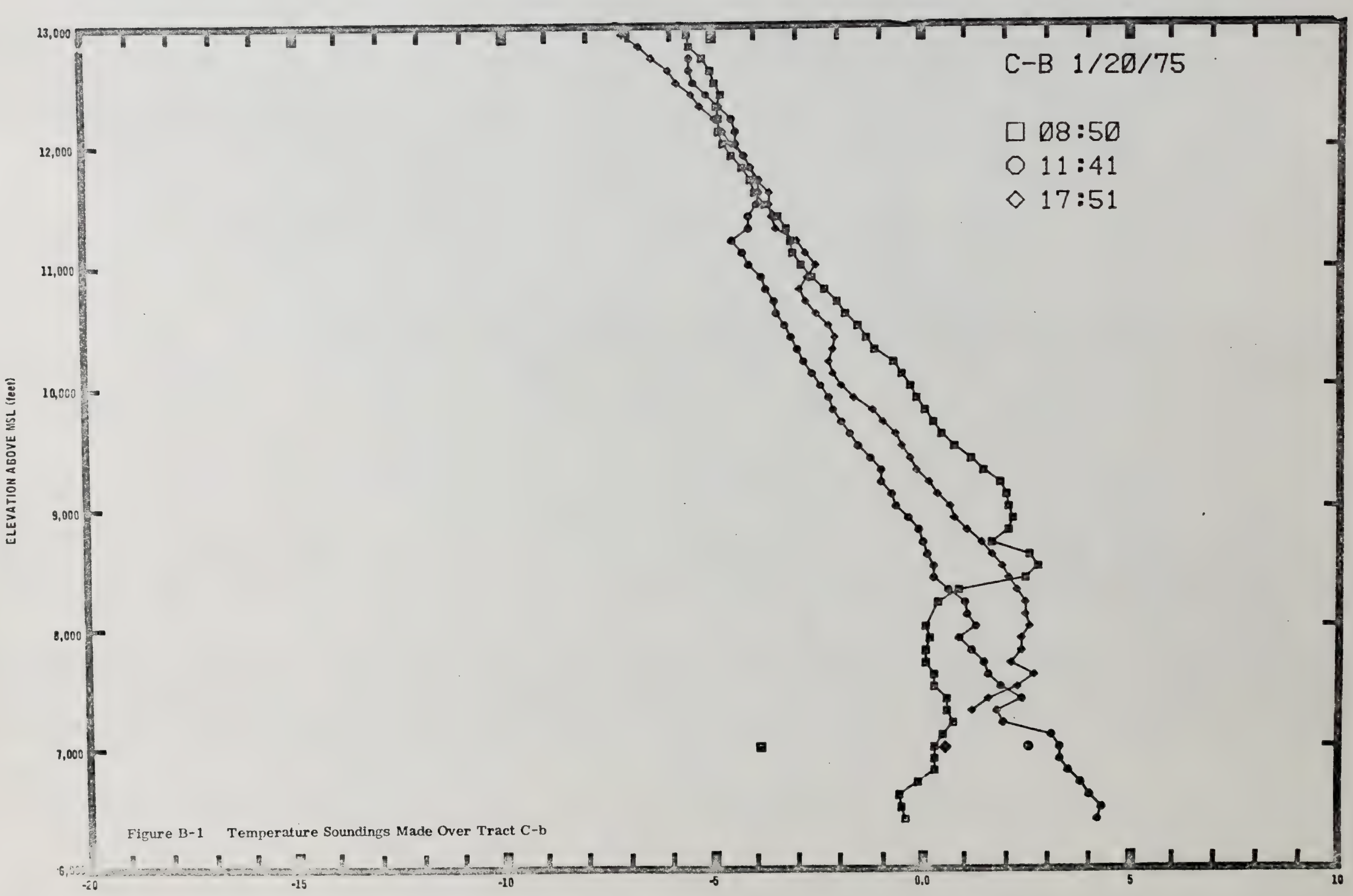

Figure B-1 Temperature Soundings Made Over Tract C-b

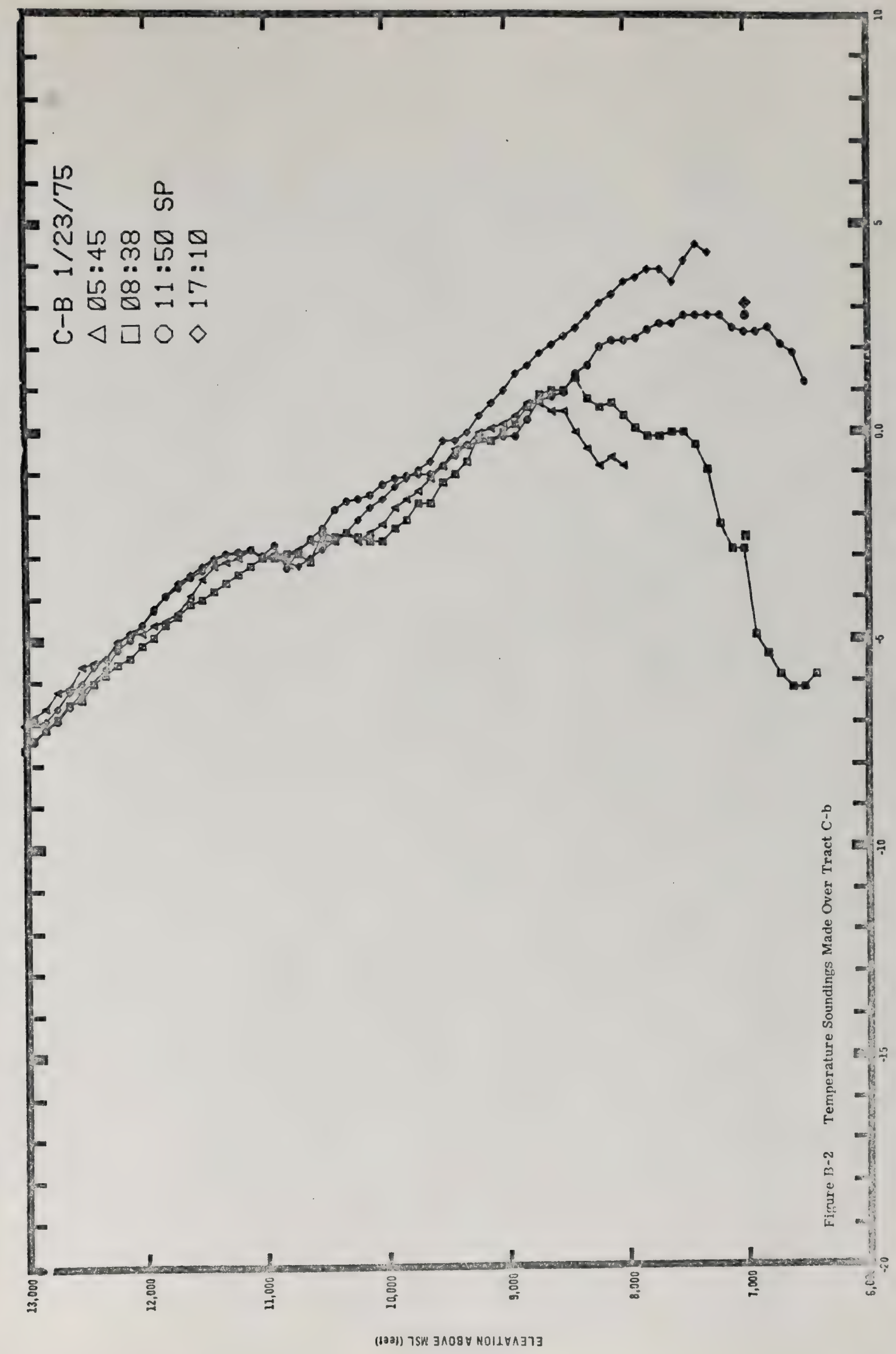

Figure B-2 Temperature Soundings Made Over Tract C-b

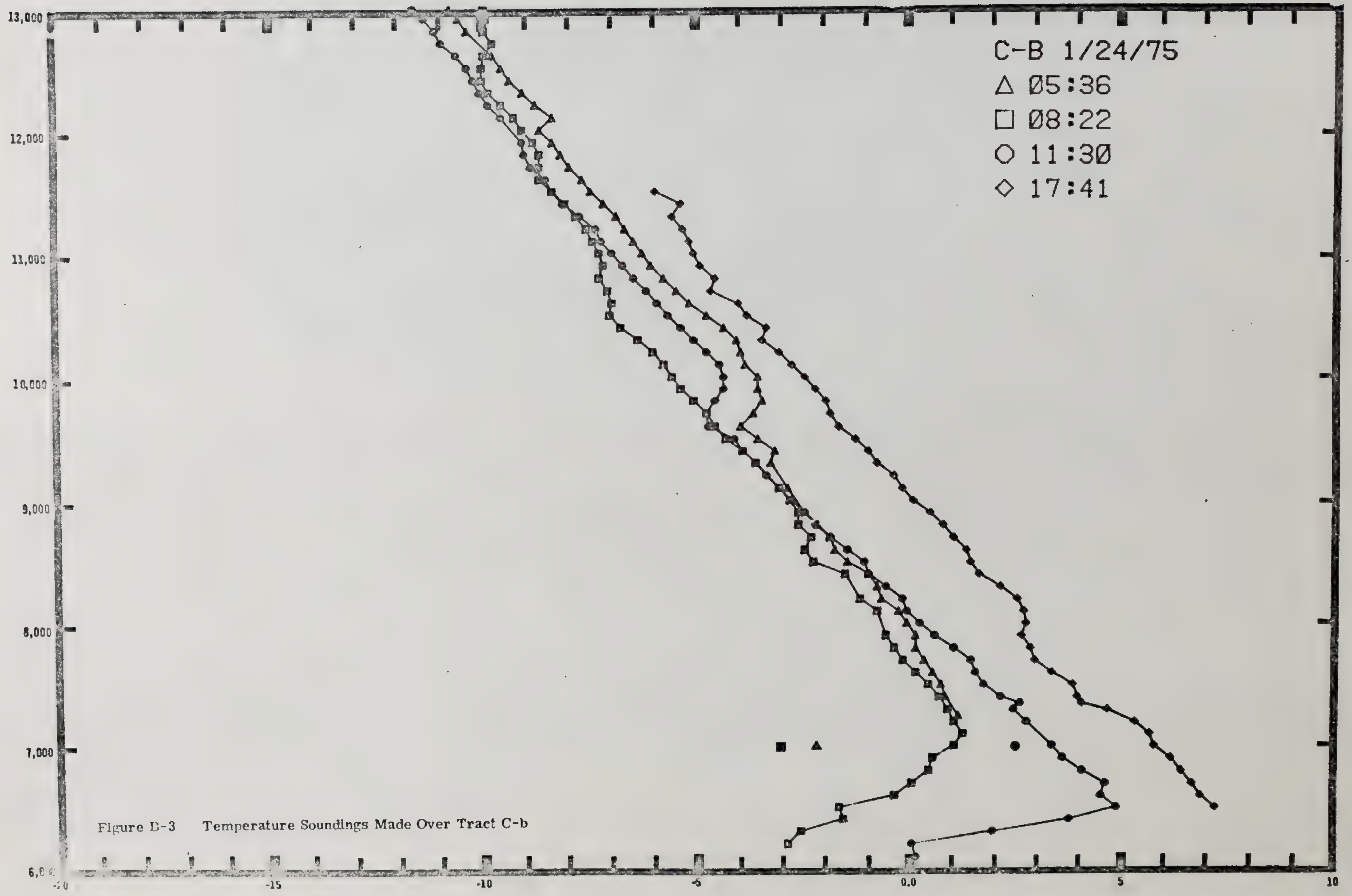

Figure B-3 Temperature Soundings Made Over Tract C-b

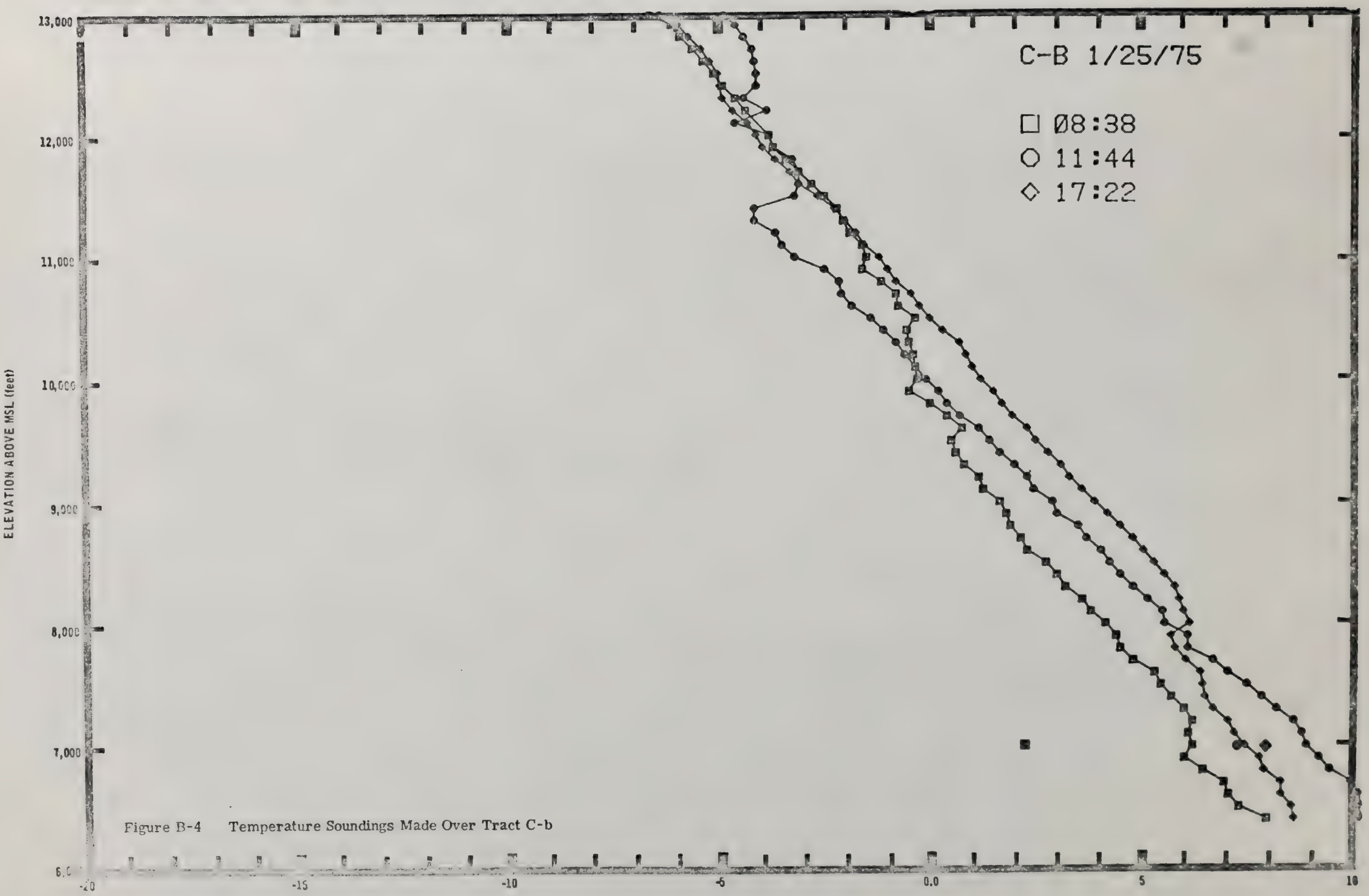

Figure B-4 Temperature Soundings Made Over Tract C-b

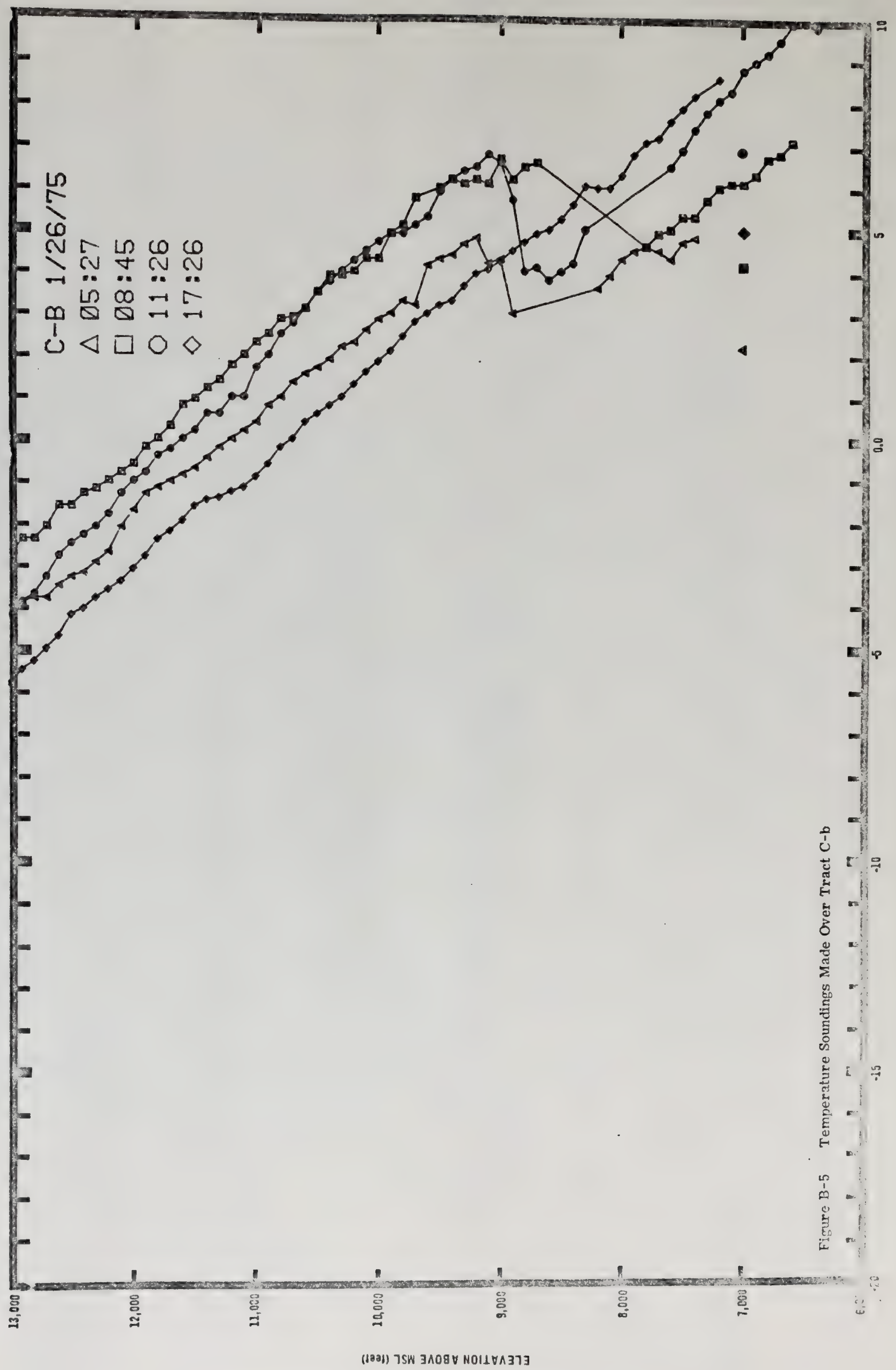

Figure B-5 Temperature Soundings Made Over Tract C-b

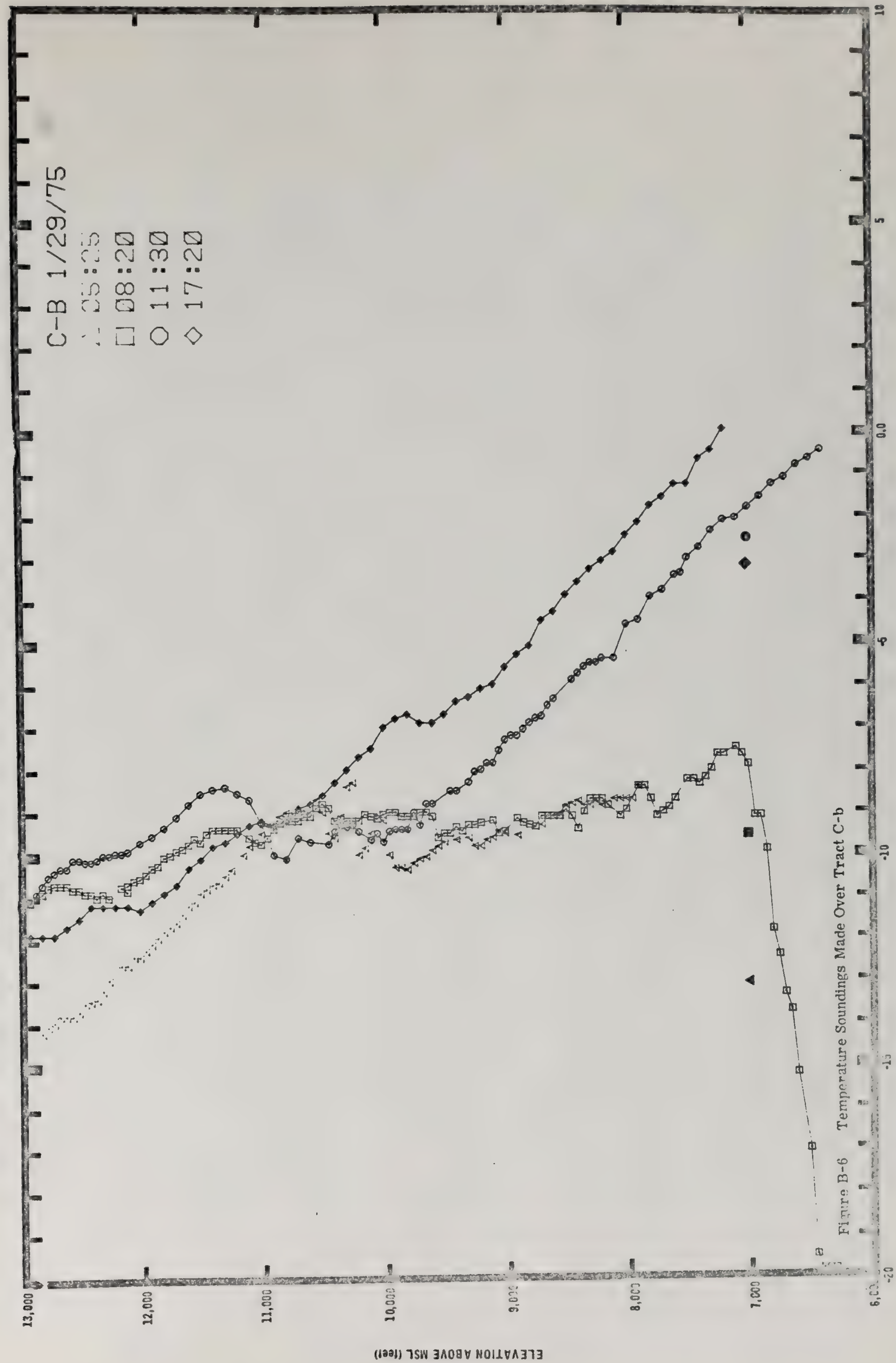

Figure B-6 Temperature Soundings Made Over Tract C-b

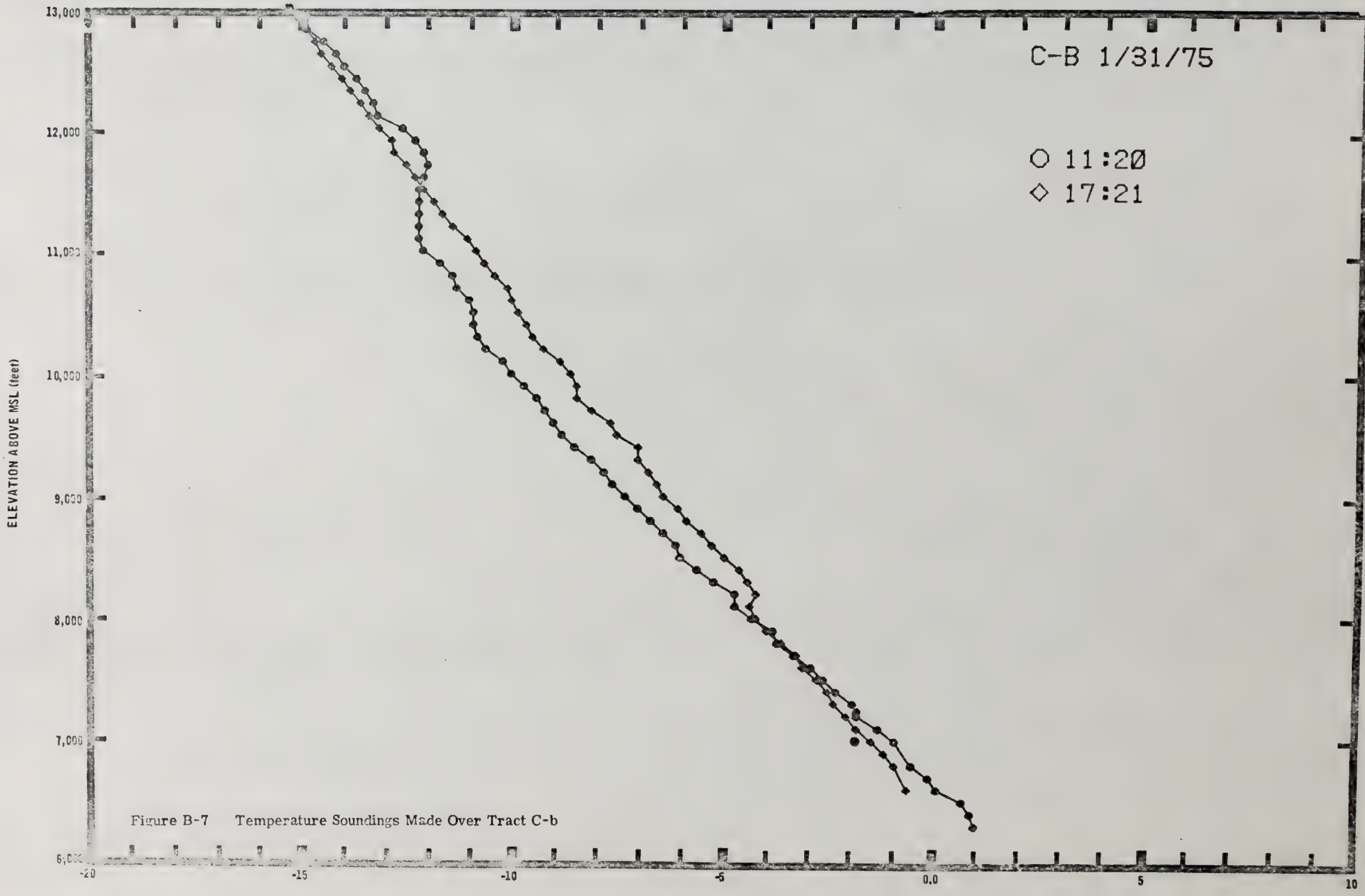

Figure B-7 Temperature Soundings Made Over Tract C-b

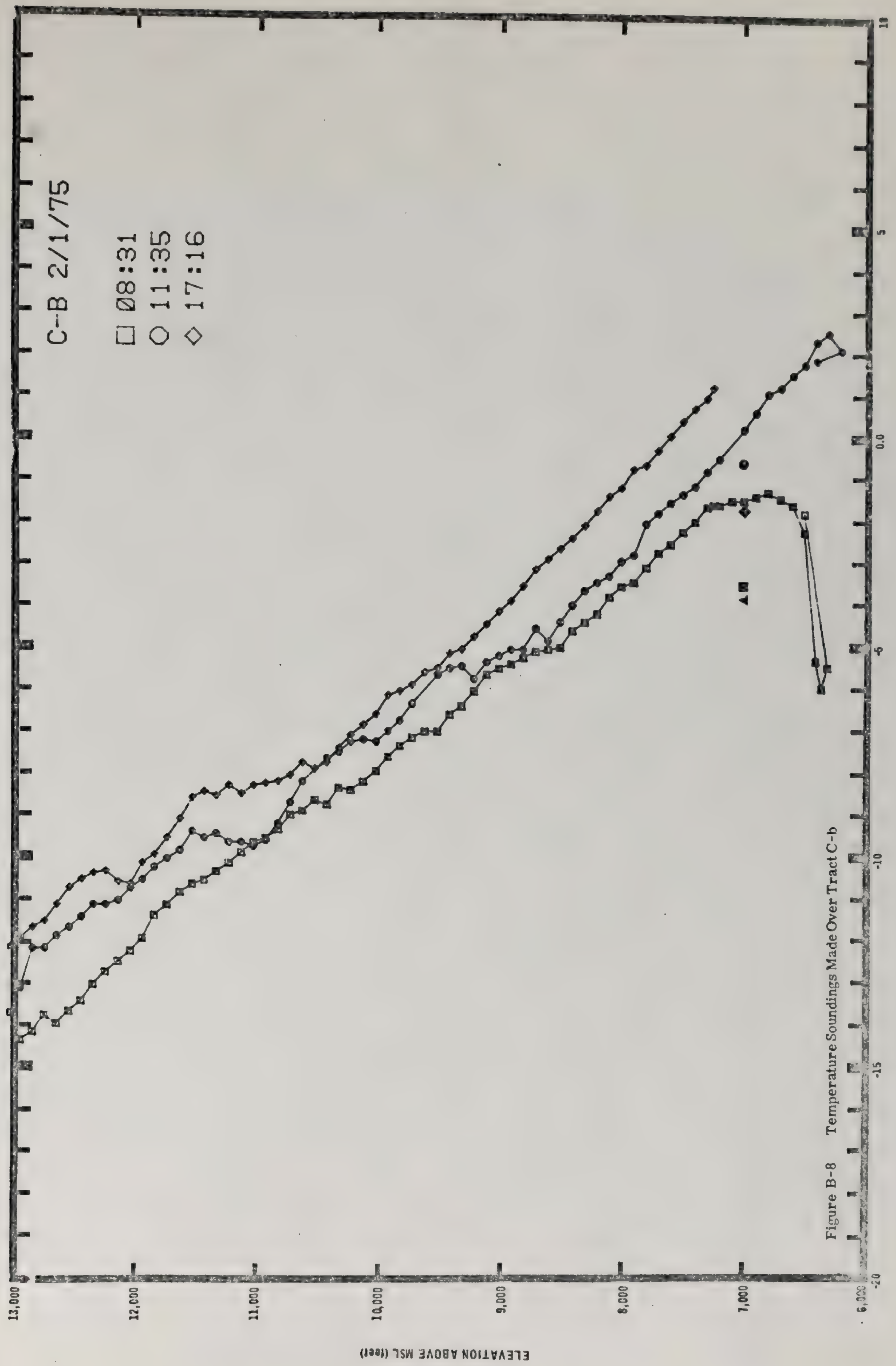

Figure B-8 Temperature Soundings Made Over Tract C-b

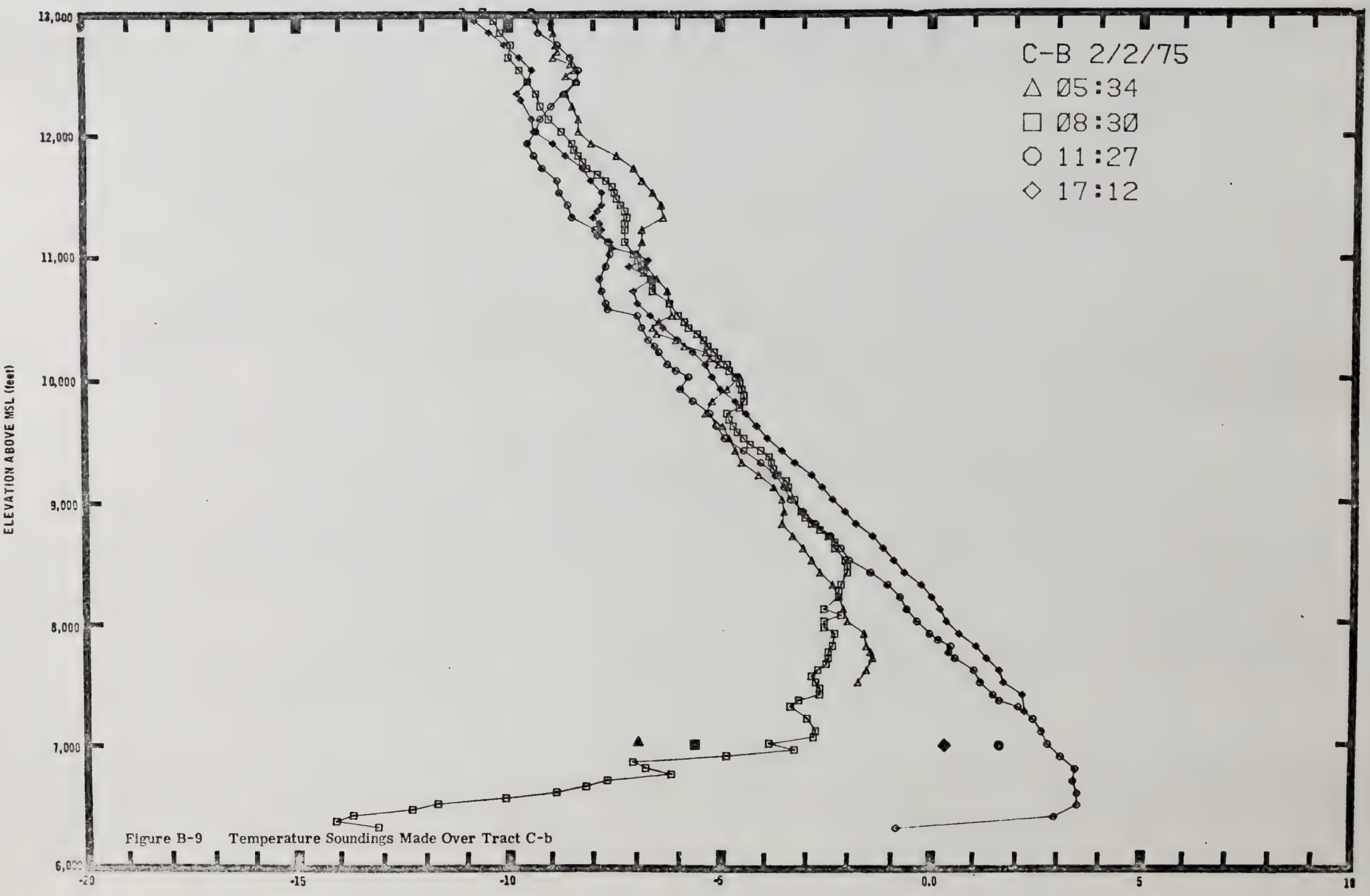

Figure B-9 Temperature Soundings Made Over Tract C-b

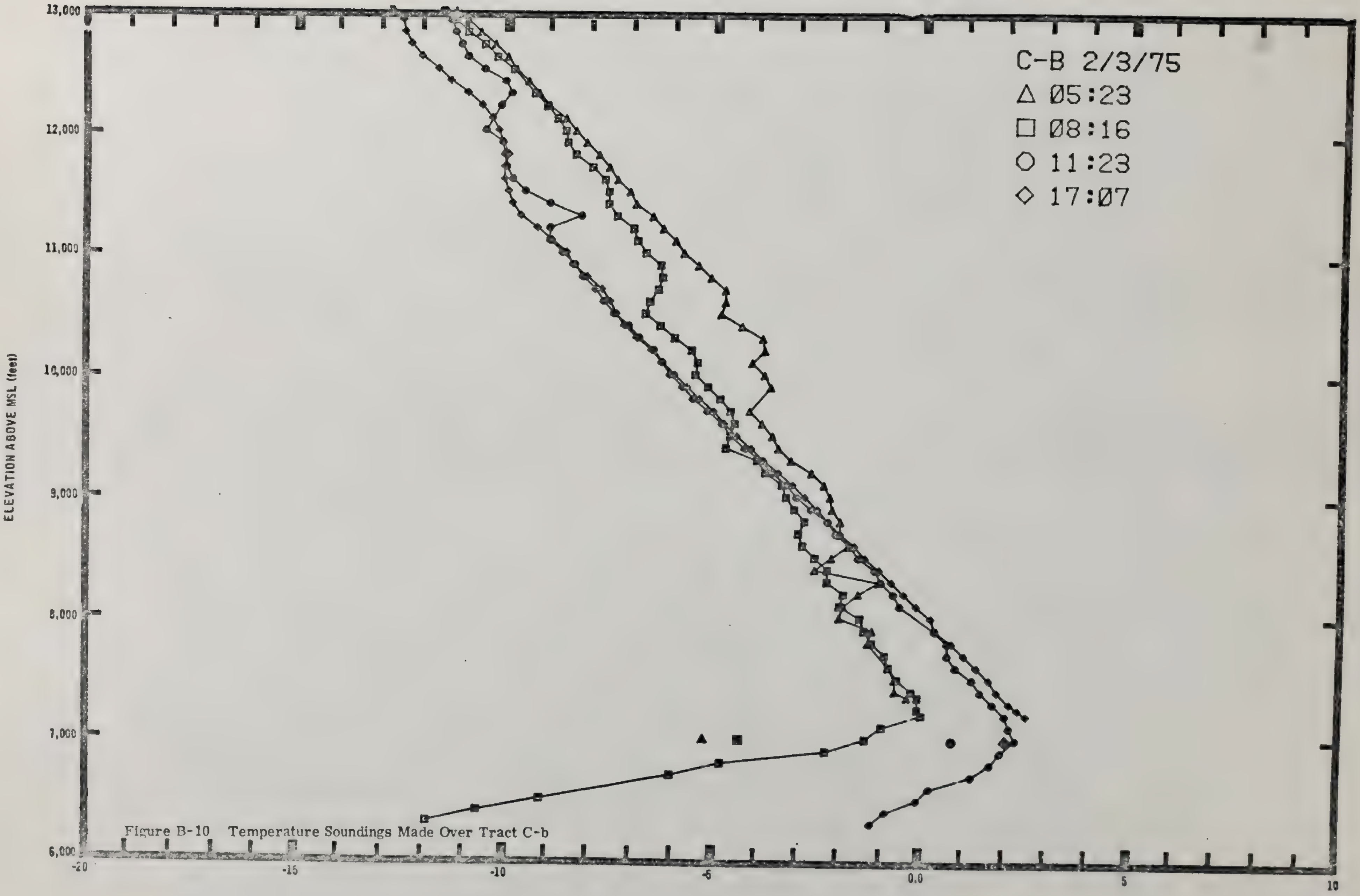

Figure B-10 Temperature Soundings Made Over Tract C-b

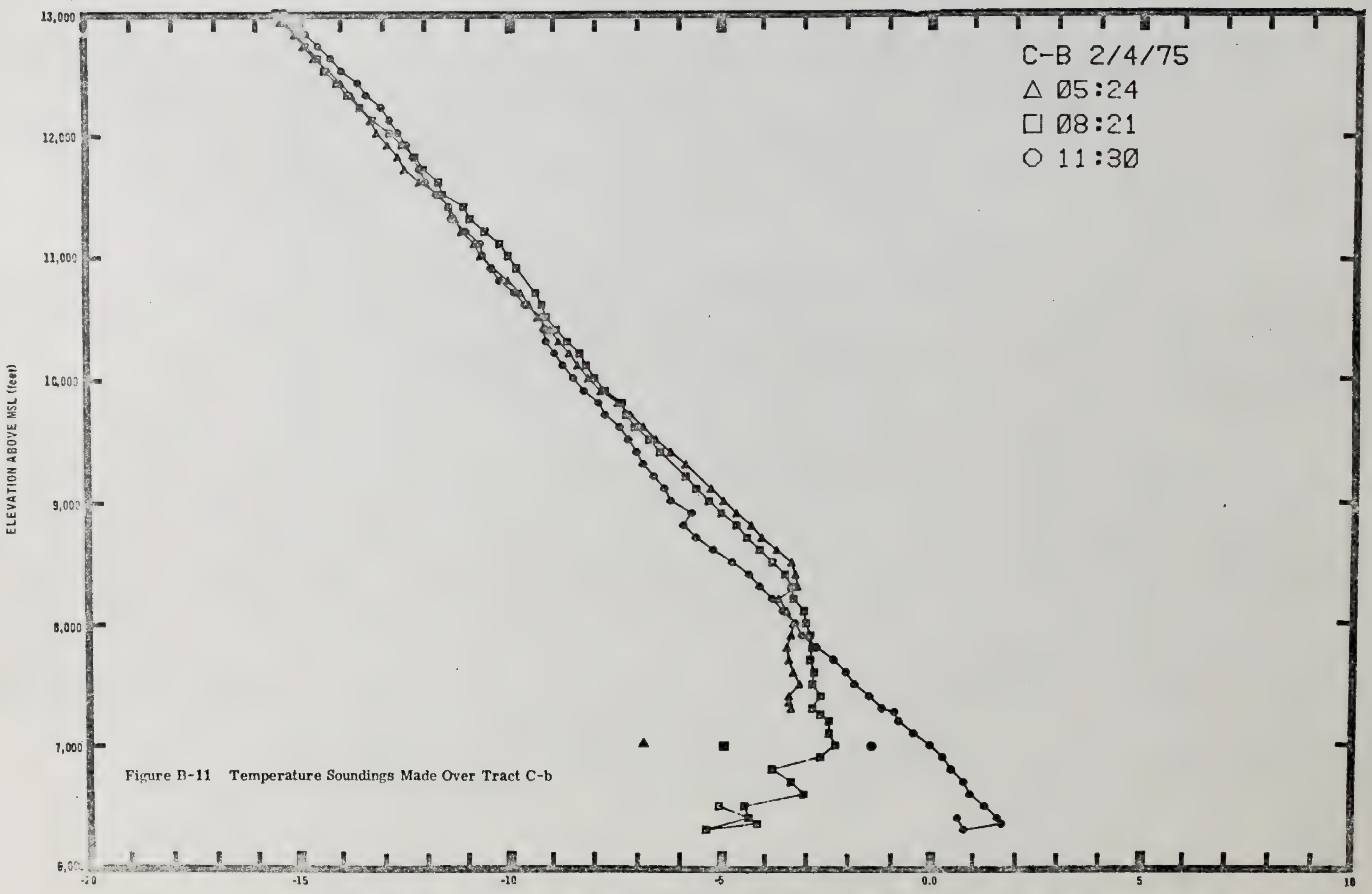

Figure B-11 Temperature Soundings Made Over Tract C-b

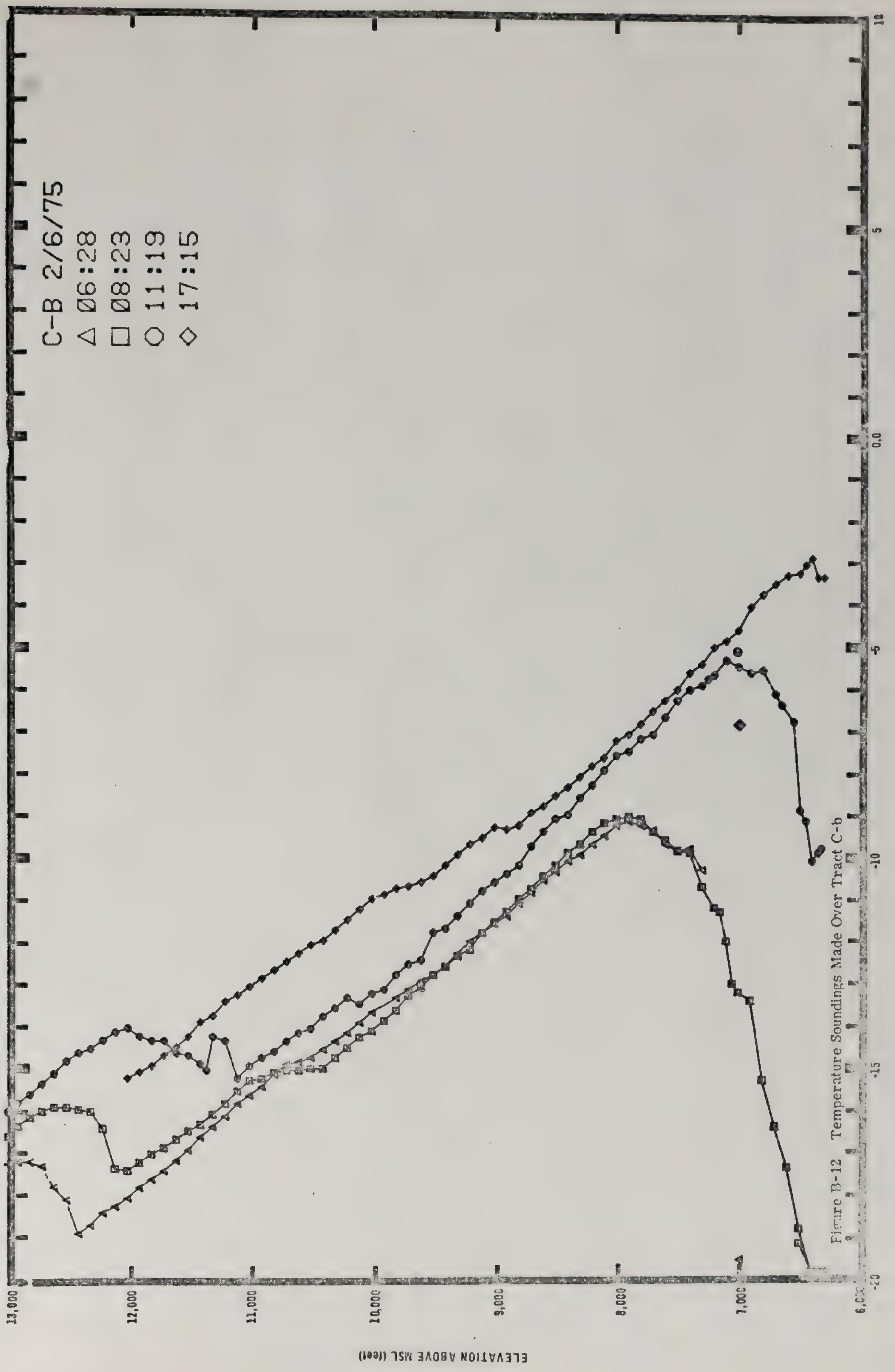

Figure B-12 Temperature Soundings Made Over Tract C-b

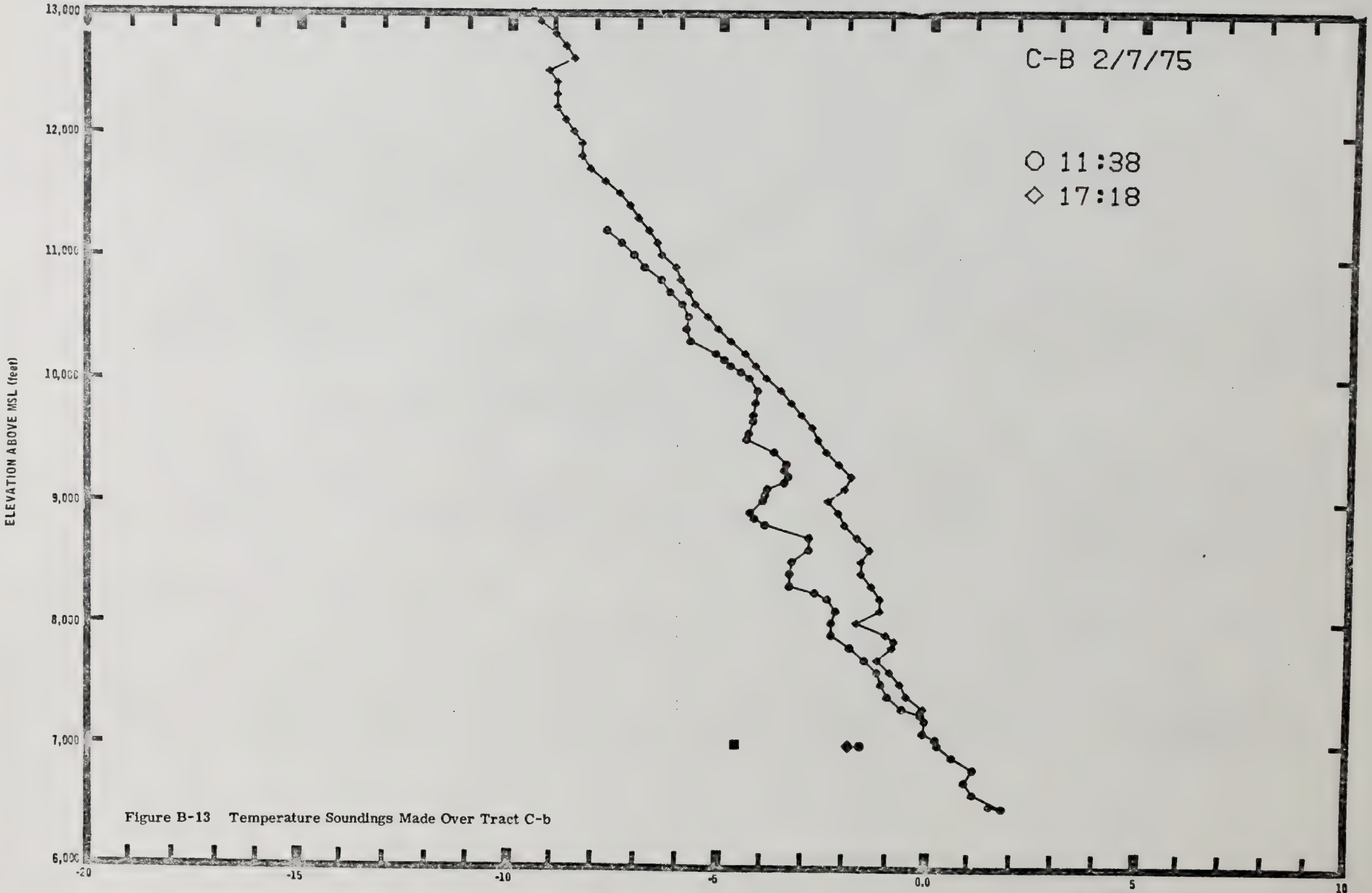

Figure B-13 Temperature Soundings Made Over Tract C-b

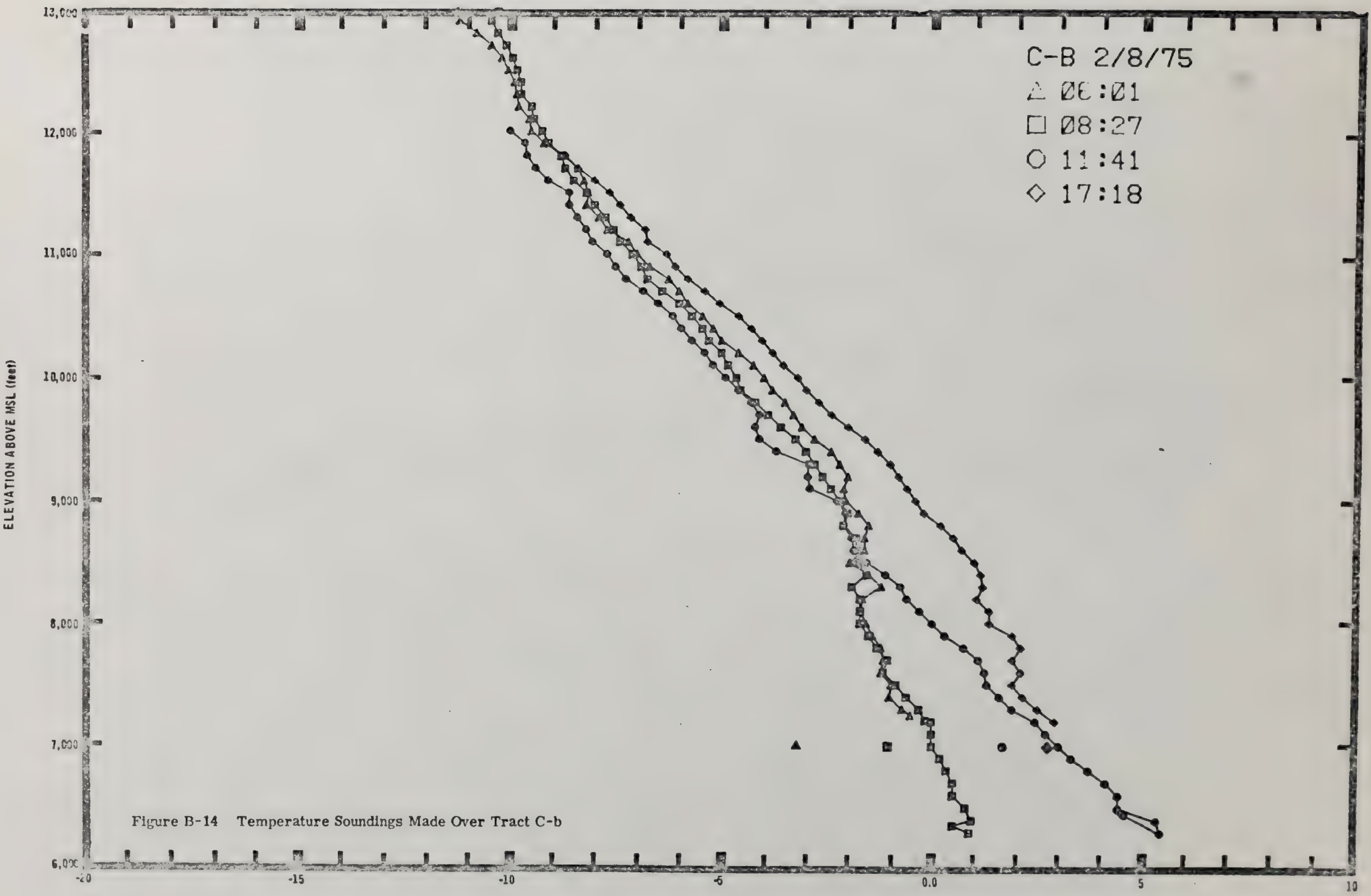

Figure B-14 Temperature Soundings Made Over Tract C-b

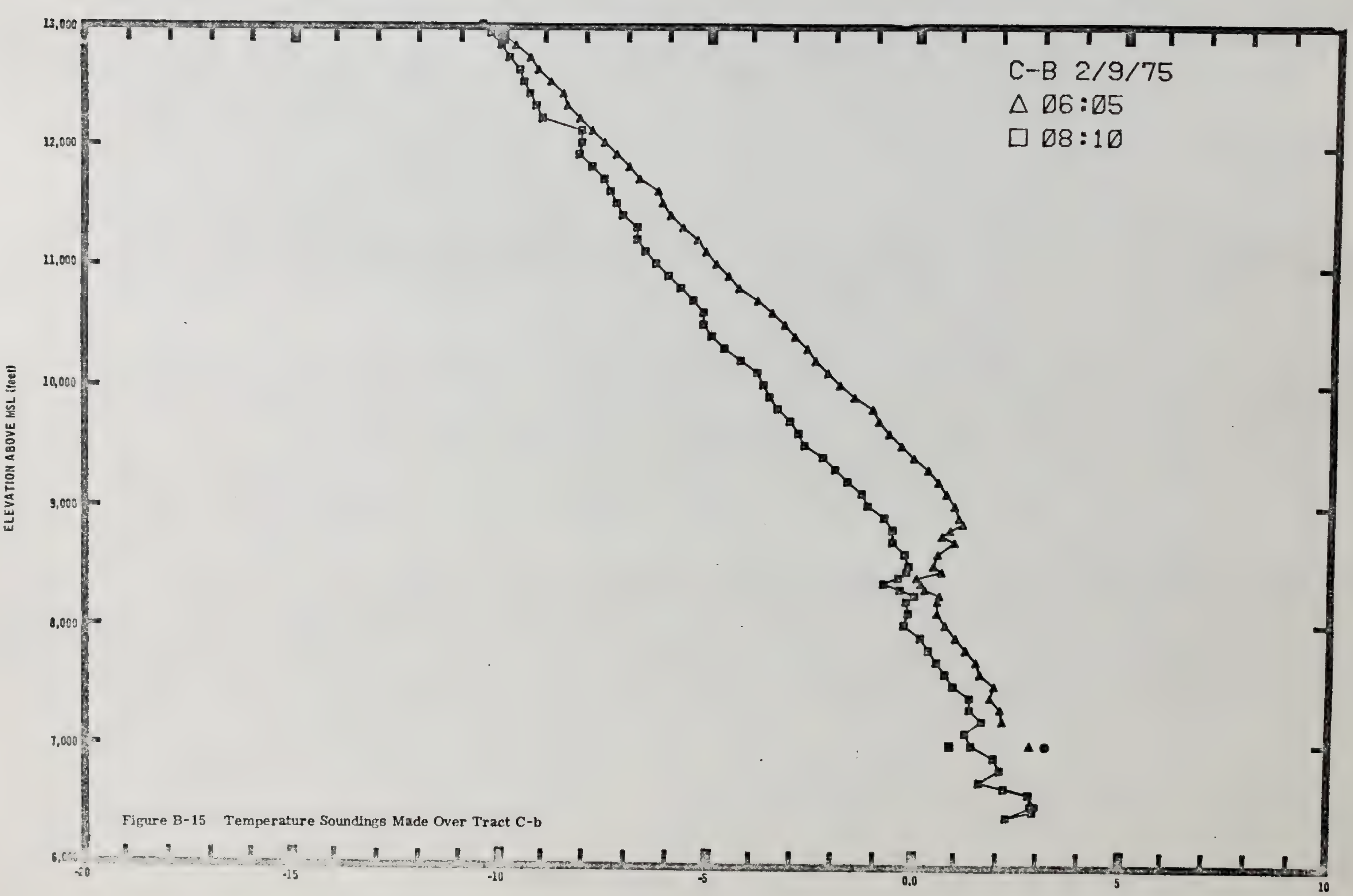

Figure B-15 Temperature Soundings Made Over Tract C-b

APPENDIX C

Pilot Balloon Sounding Plots Over Federal Oil Shale Tract C-b During the Period 20 January through 9 February, 1975

Numbers alongside the points represent the calculated height of the balloon above the surface at that point in hundreds of feet. Other non-labelled heights can be determined given that each continuous point is 300 feet vertically displaced from its nearest neighbors. Where data are missing, no points were plotted, but the line was interrupted to denote that data was missing. In all soundings presented in this appendix, the following point symbology is adhered to:

△	Flight Number 1	nominally	0500 MST
□	Flight Number 2	nominally	0800 MST
⬡	Flight Number 3	nominally	1100 MST
◇	Flight Number 4	nominally	1700 MST

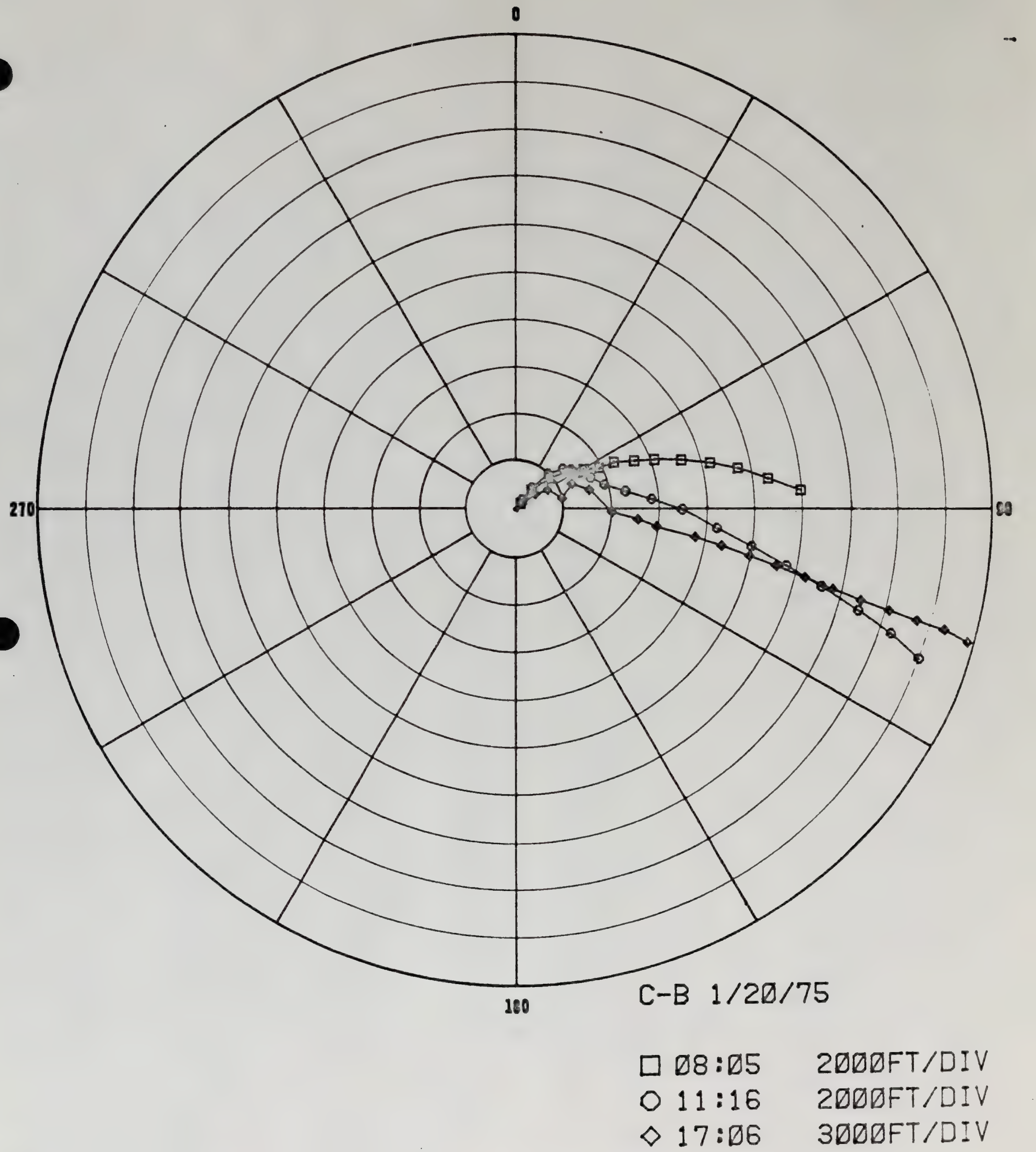

Figure C-1 Pilot Balloon Soundings made over Tract C-b

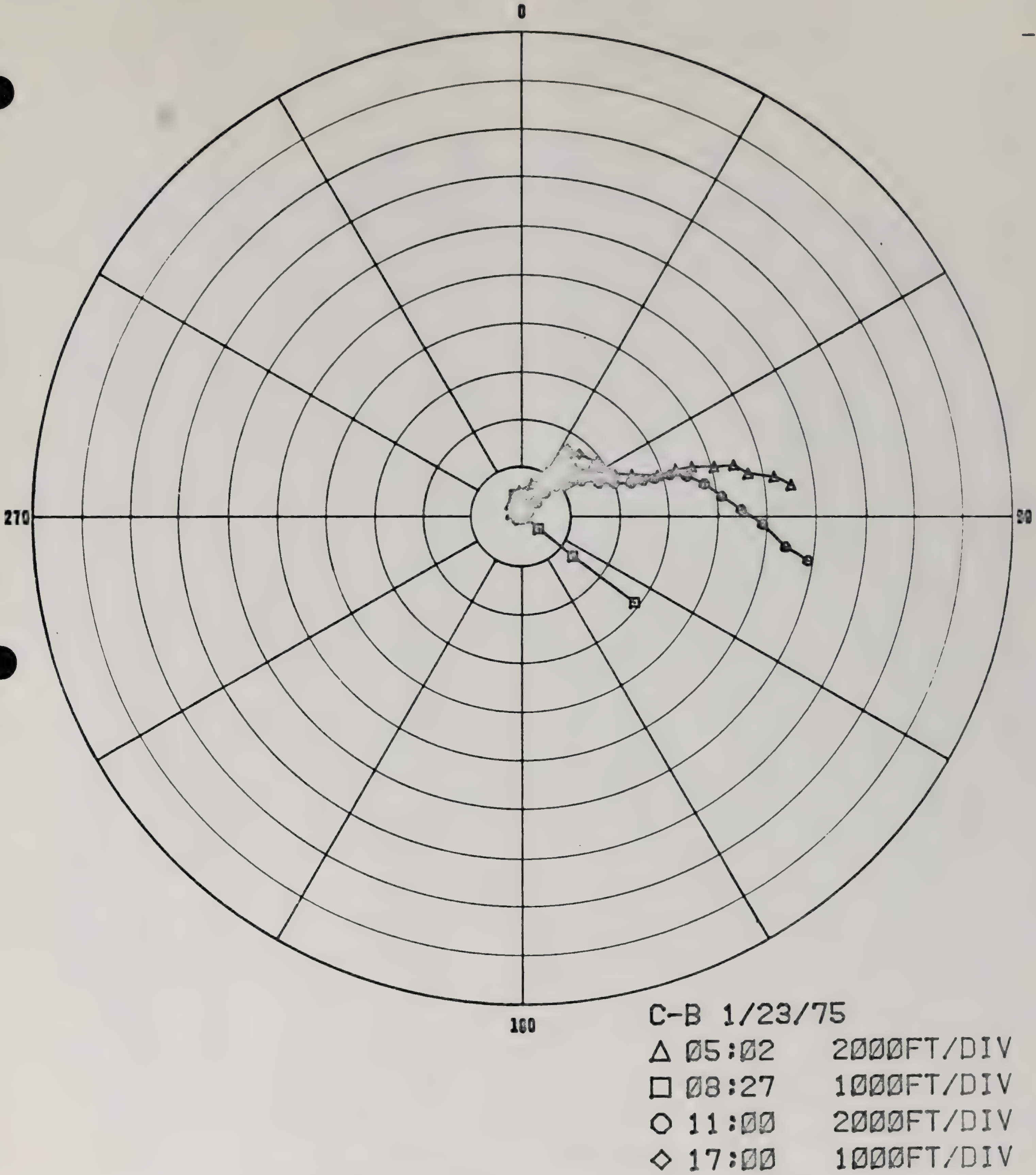

Figure C-2 Pilot Balloon Soundings made over Tract C-b

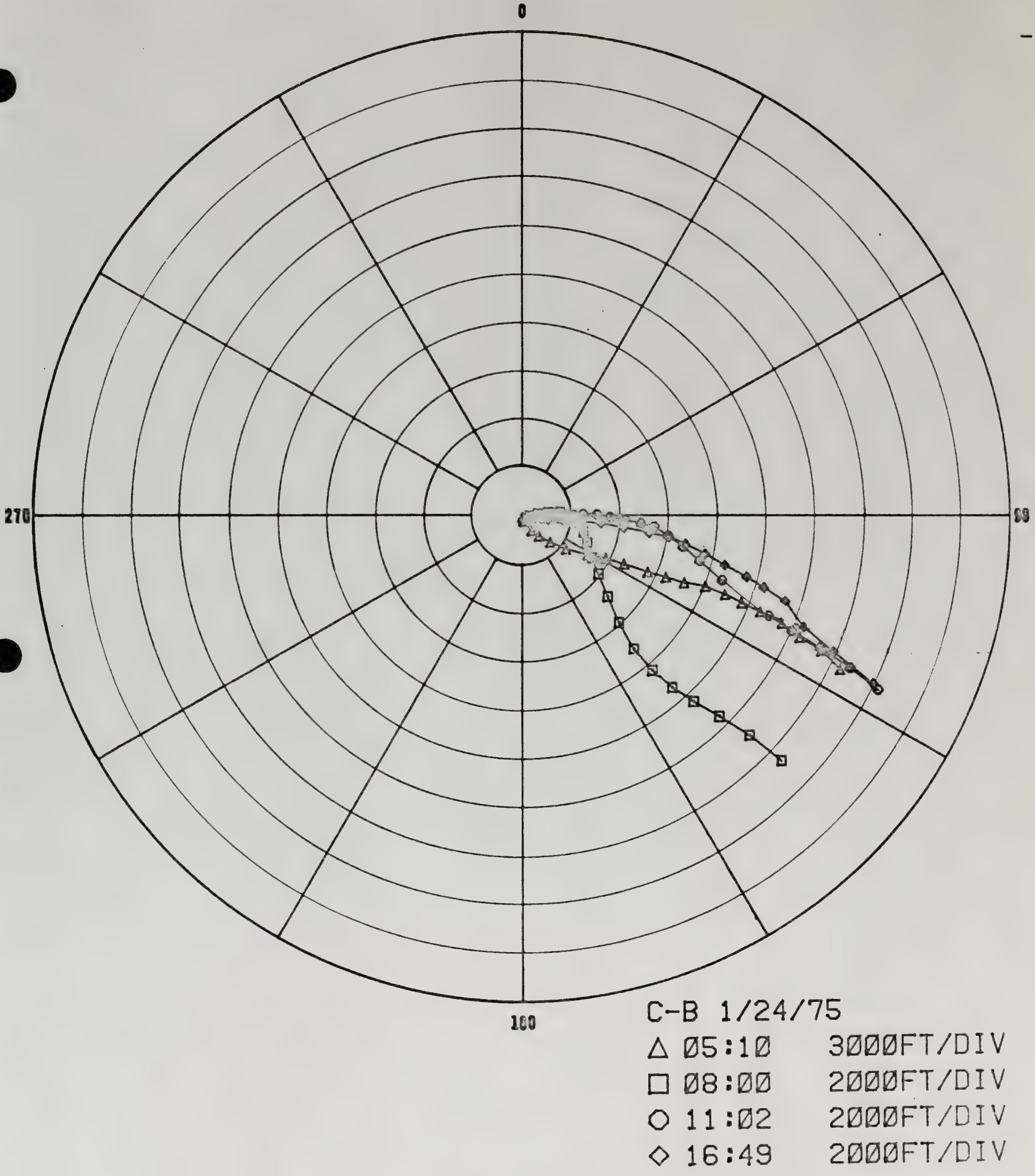

Figure C-3 Pilot Balloon Soundings made over Tract C-b

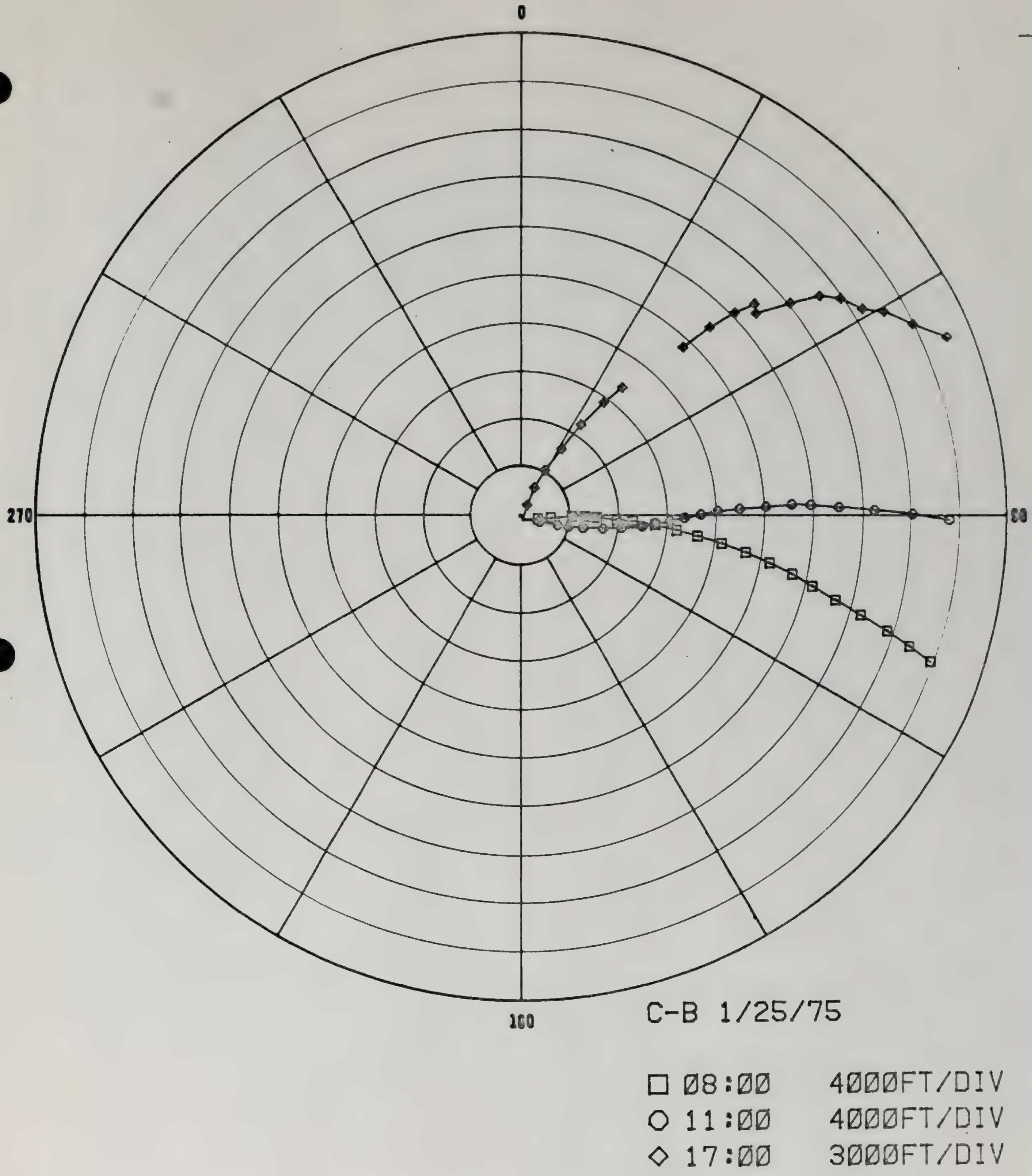

Figure C-4 Pilot Balloon Soundings made over Tract C-b

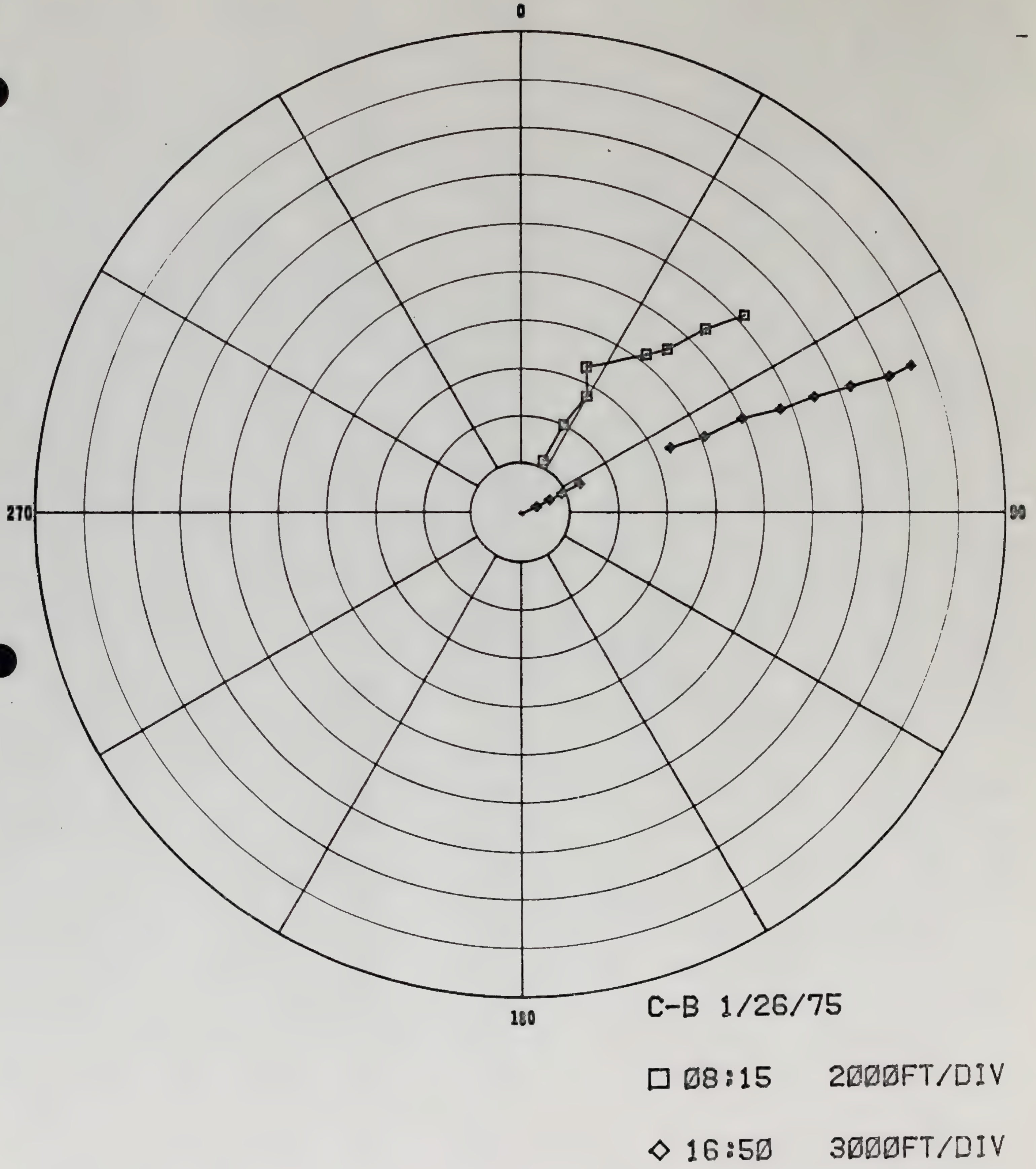

Figure C-5 Pilot Balloon Soundings made over Tract C-b

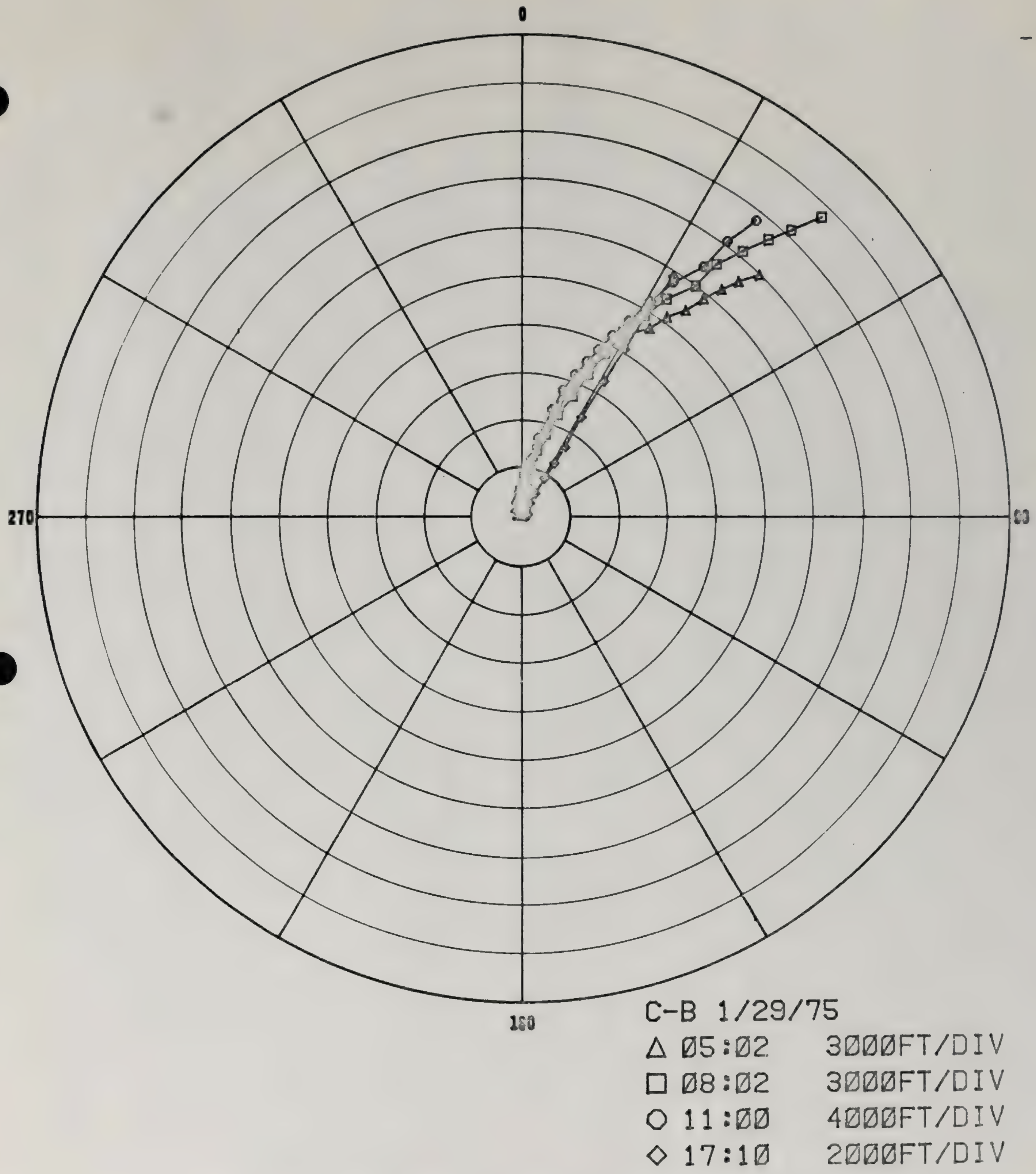

Figure C-6 Pilot Balloon Soundings made over Tract C-b

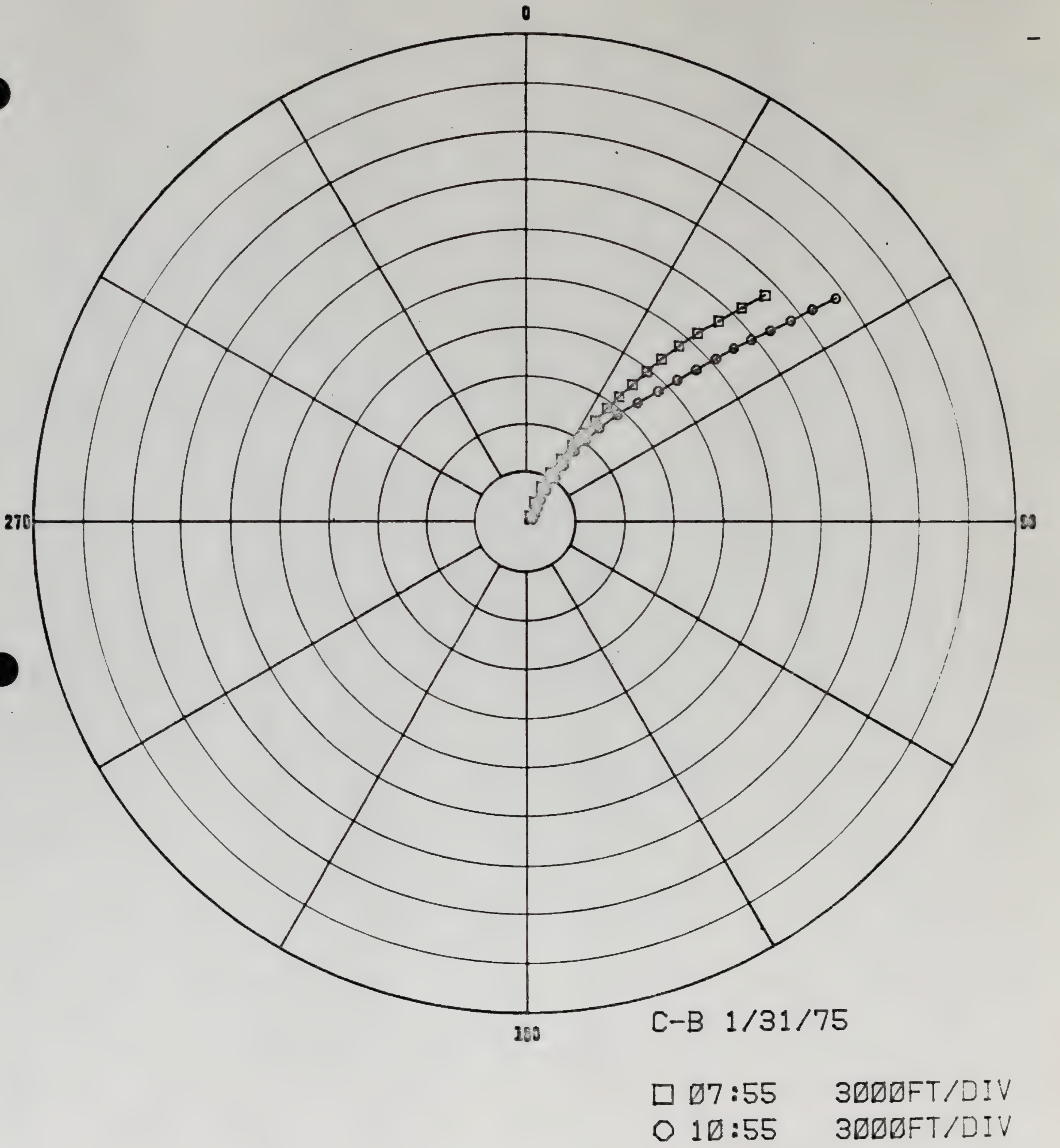

Figure C-7 Pilot Balloon Soundings made over Tract C-b

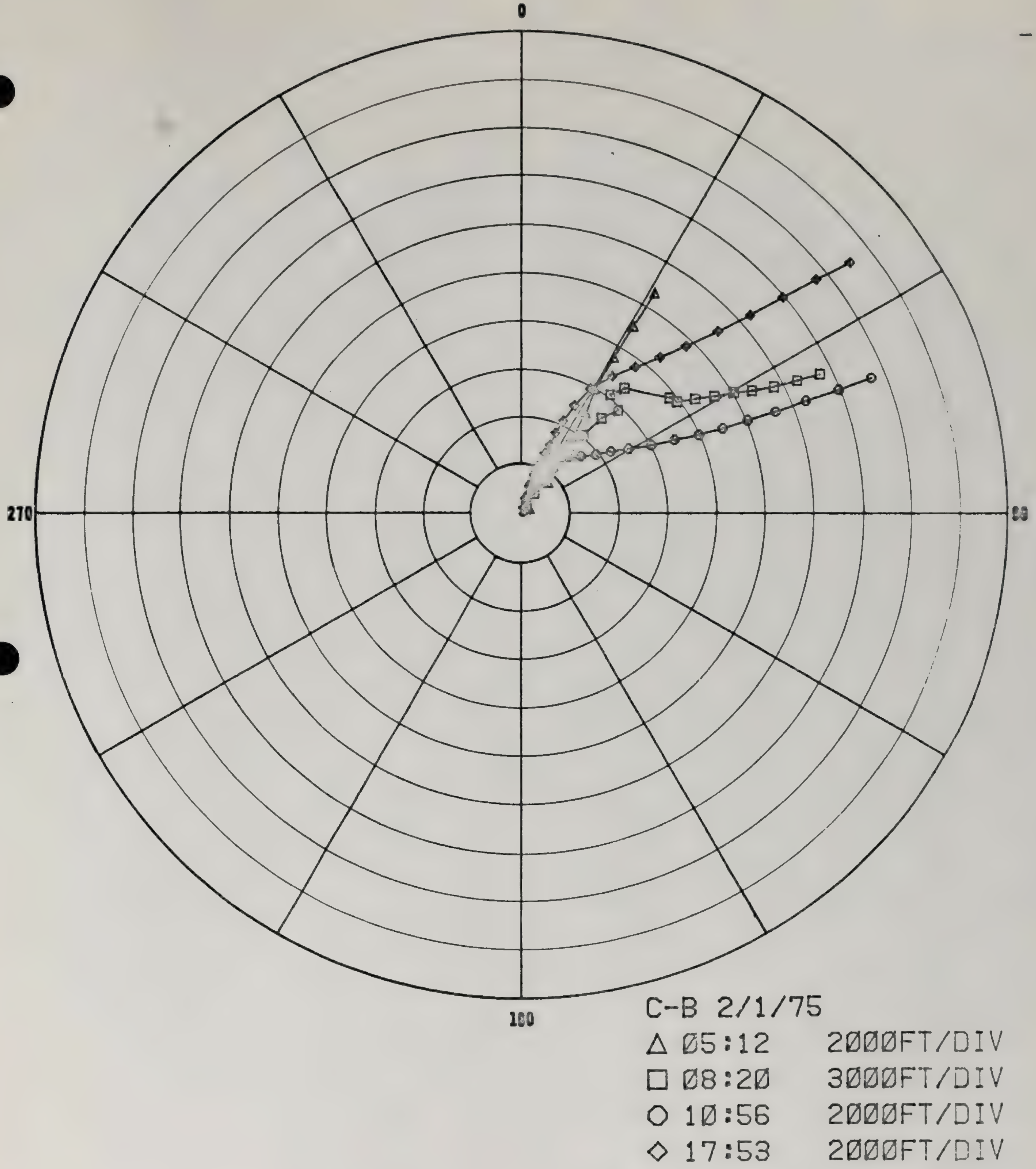

Figure C-8 Pilot Balloon Soundings made over Tract C-b

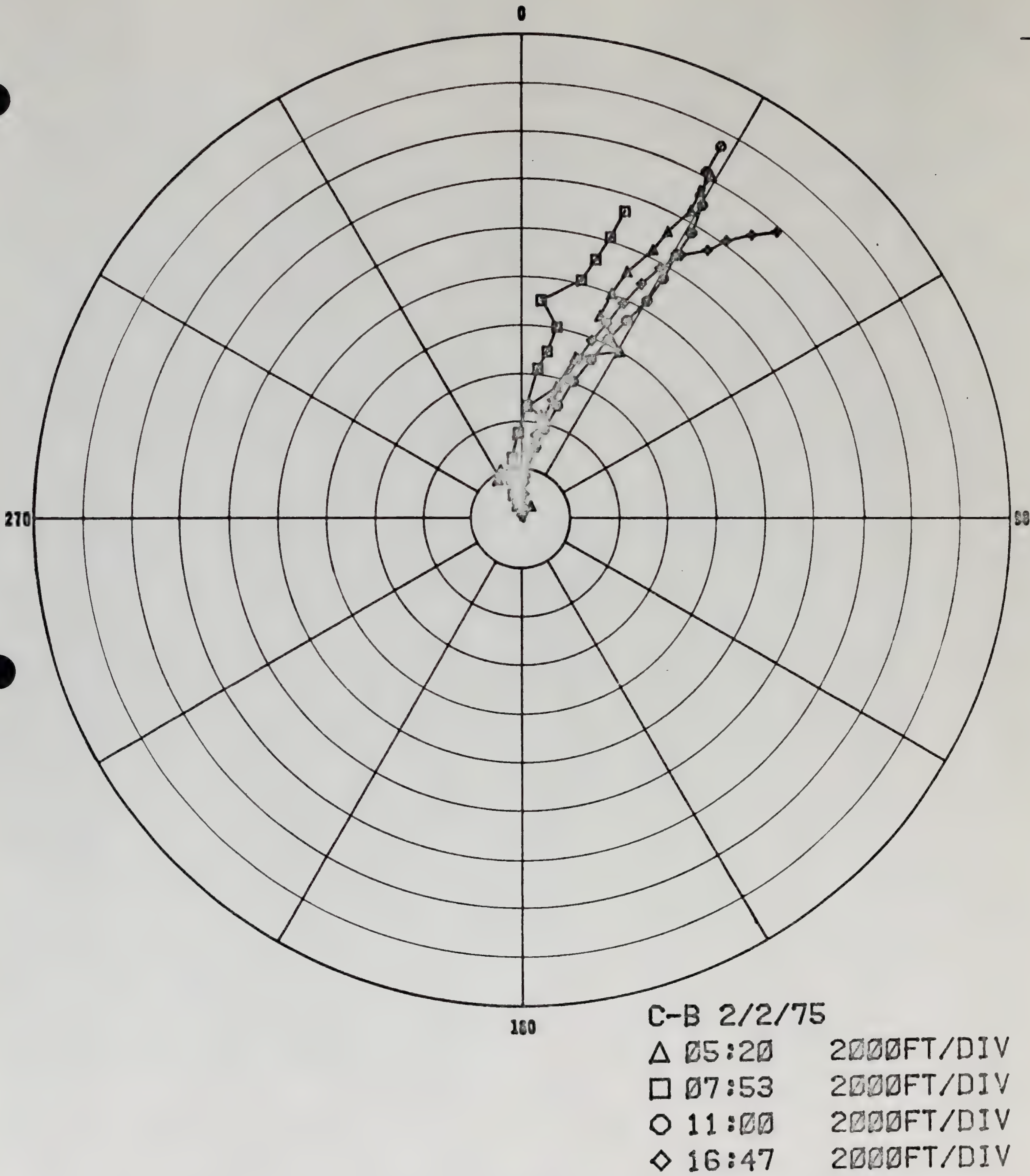

Figure C-9 Pilot Balloon Soundings made over Tract C-b

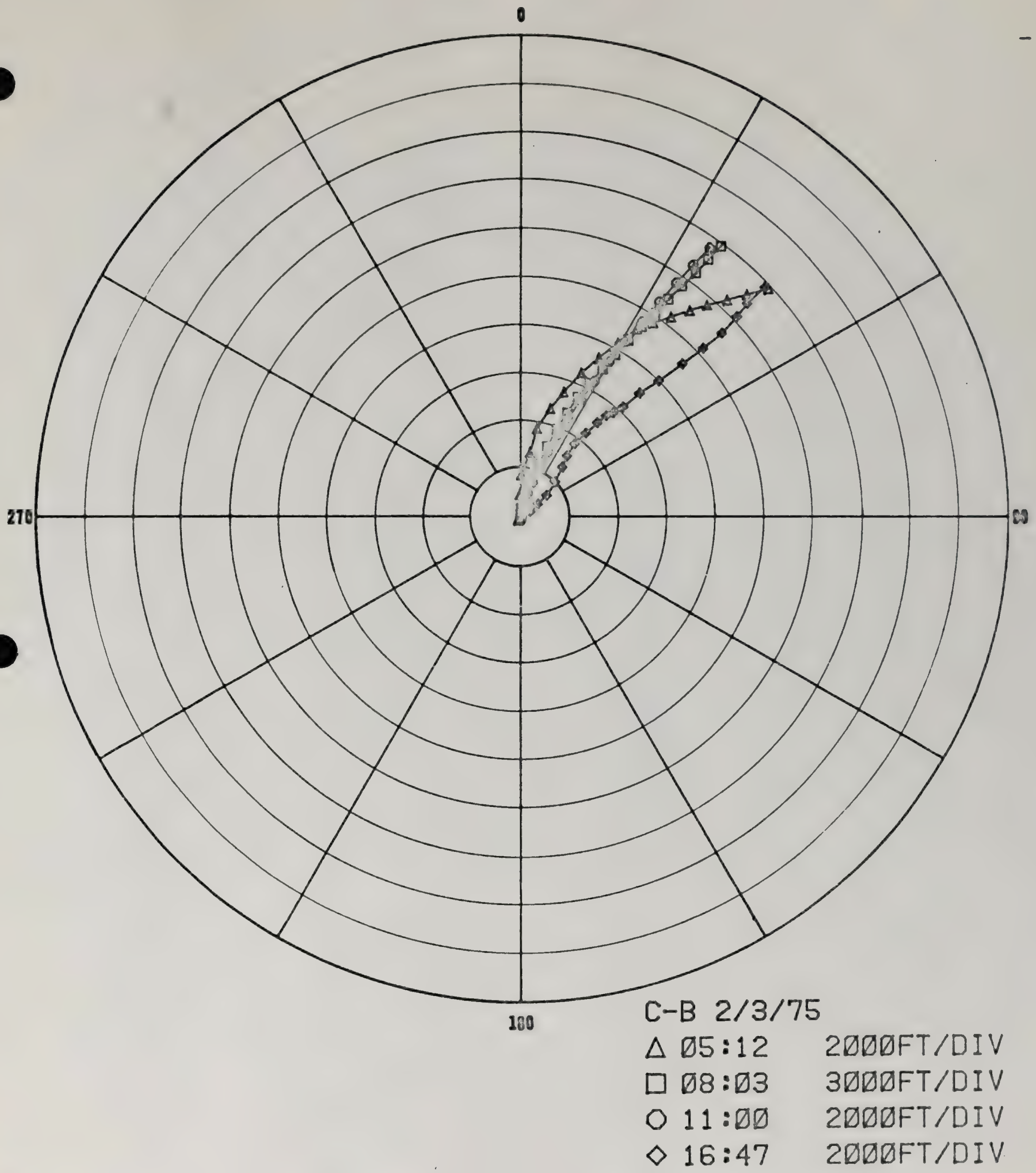

Figure C-10 Pilot Balloon Soundings made over Tract C-b

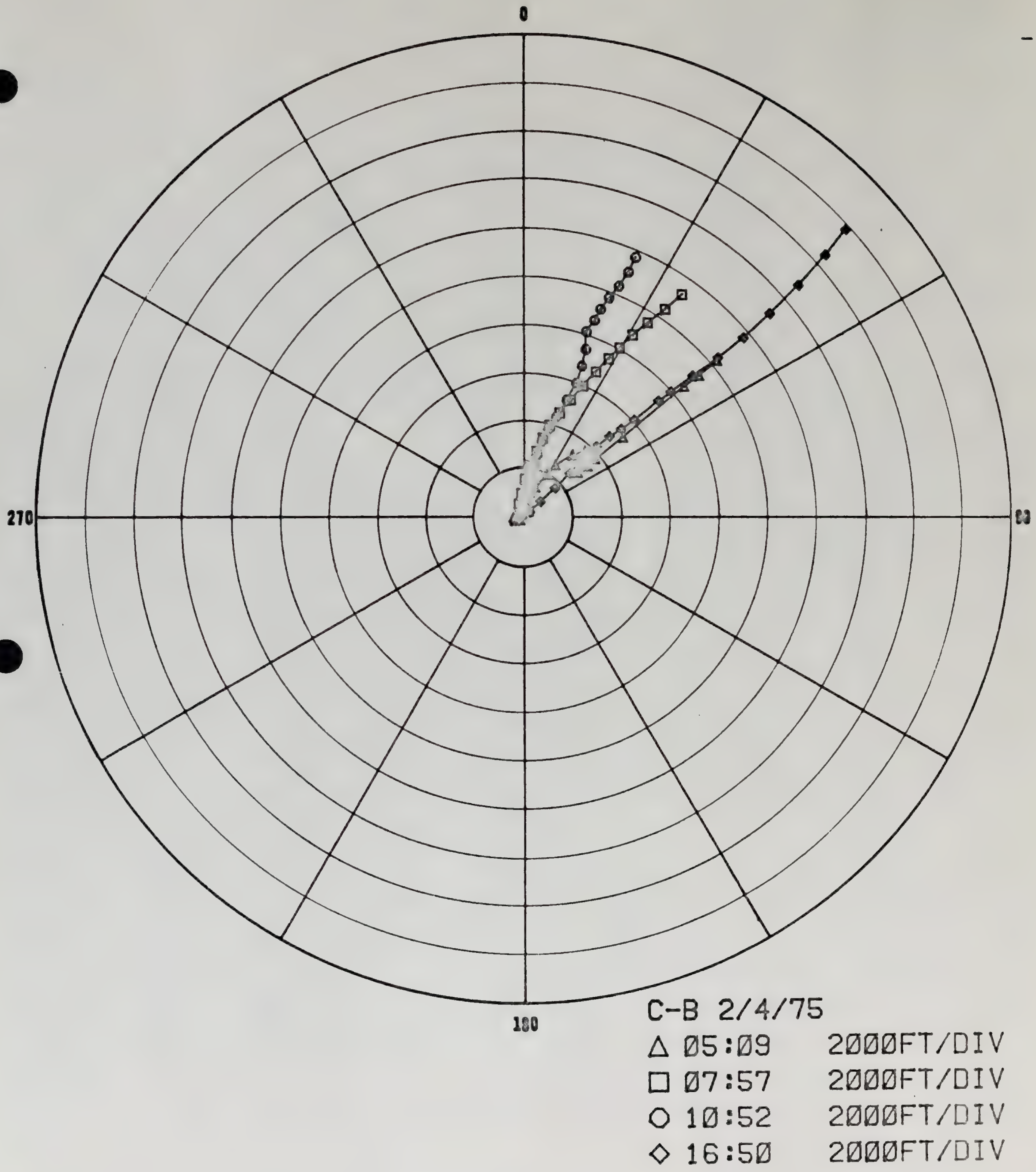

Figure C-11 Pilot Balloon Soundings made over Tract C-b

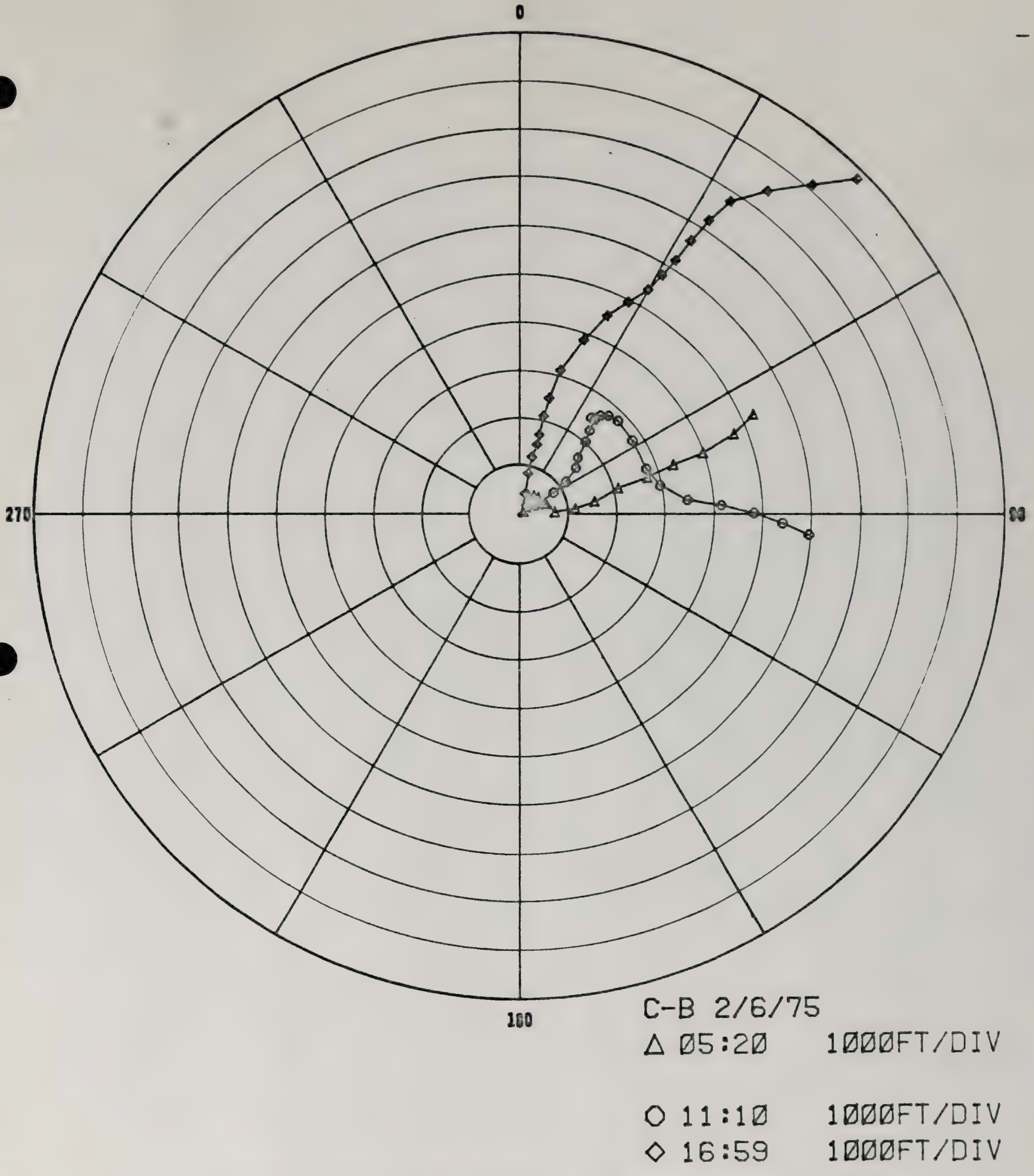

Figure C-12 Pilot Balloon Soundings made over Tract C-b

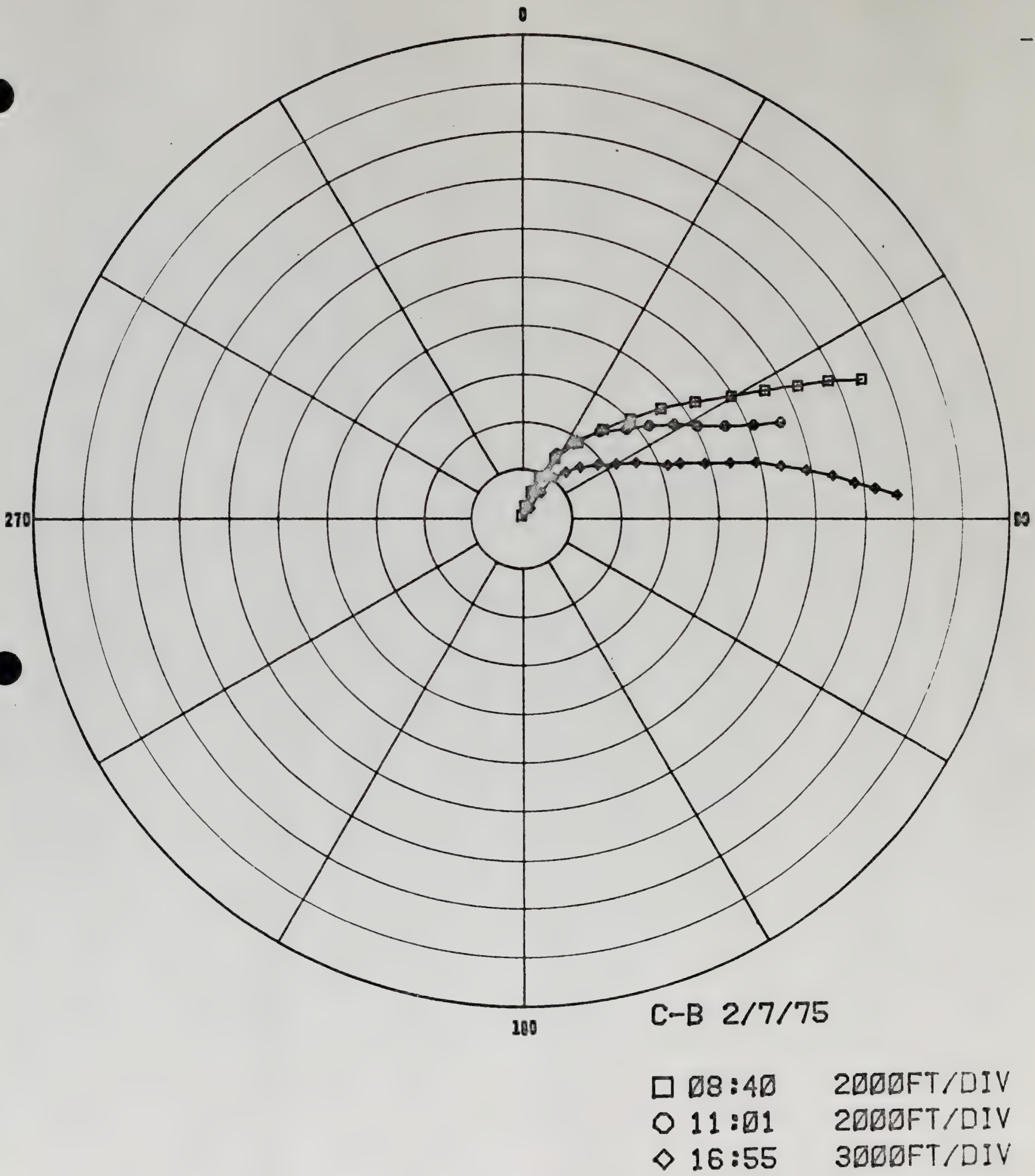

Figure C-13 Pilot Balloon Soundings made over Tract C-b

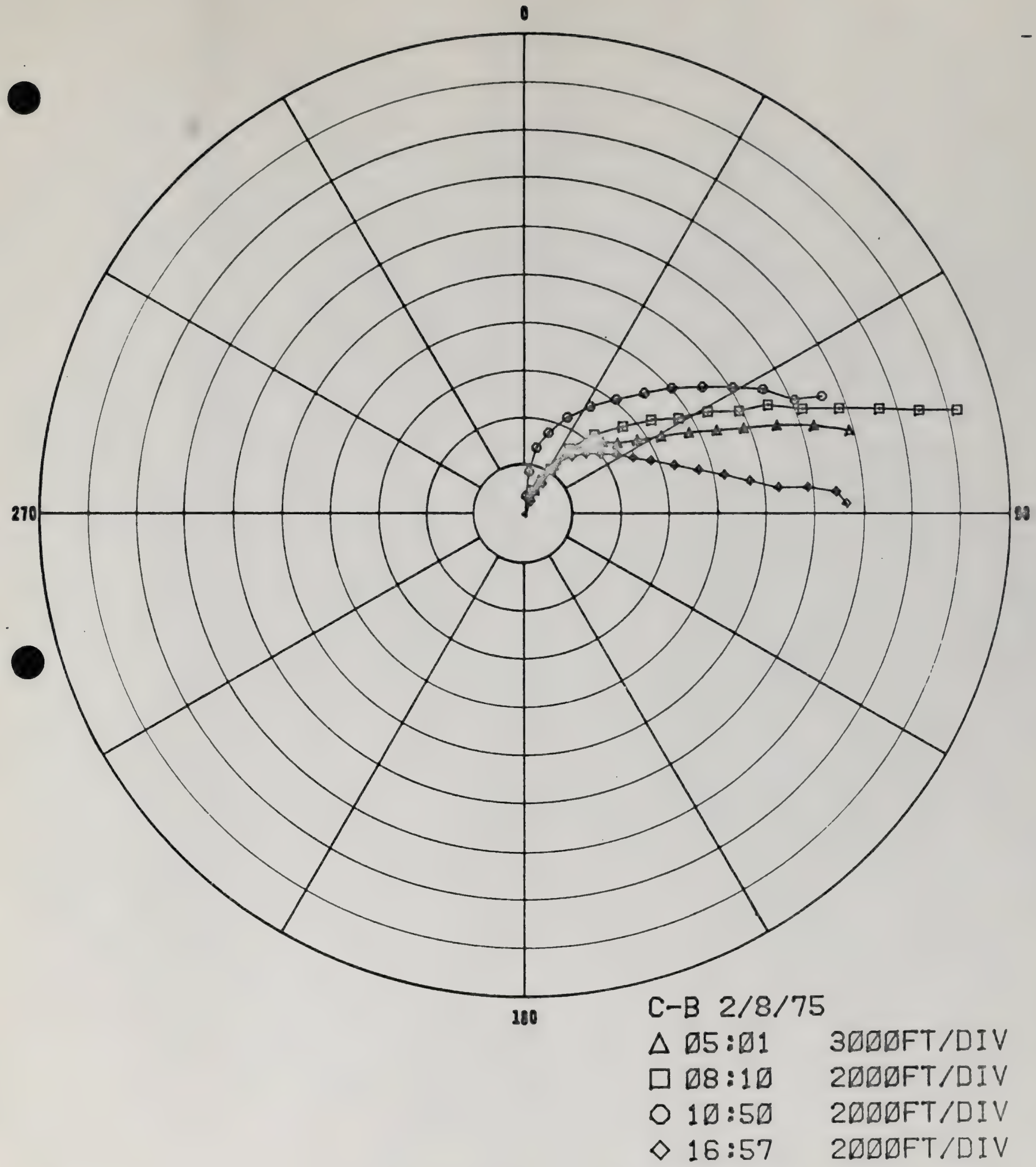

Figure C-14 Pilot Balloon Soundings made over Tract C-b

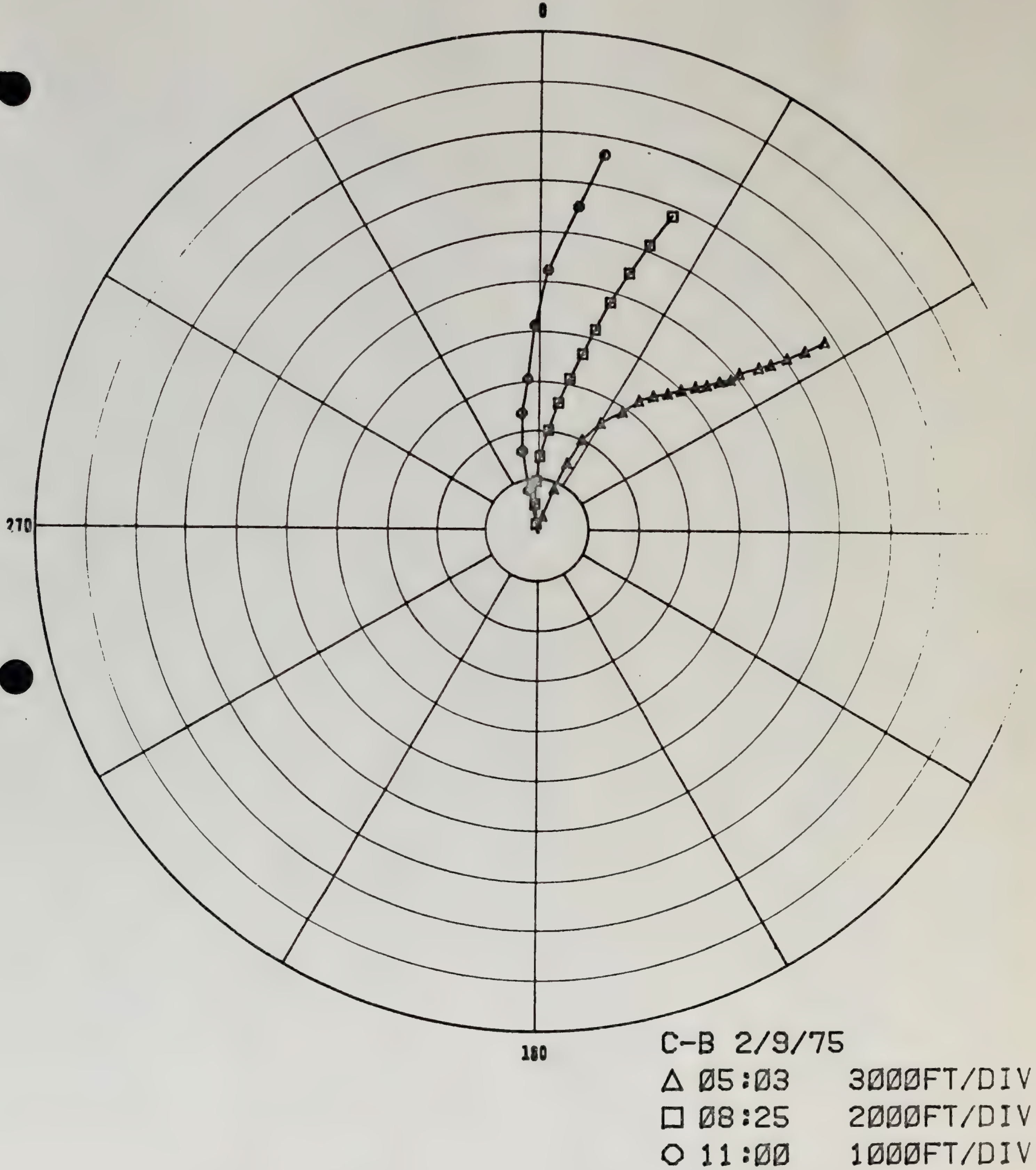

Figure C-15 Pilot Balloon Soundings made over Tract C-b

E G & G Upper Air Data (Ref 6)

EG&G
ENVIRONMENTAL CONSULTANTS

AL-EC-116
14 MARCH 1974

UPPER AIR COMPARISON STUDIES FOR WINTER 1975 BETWEEN FEDERAL OIL SHALE TRACTS C-a, C-b AND GRAND JUNCTION COLORADO

PREPARED FOR

THE RIO BLANCO OIL SHALE PROJECT
AND
THE C-b SHALE OIL PROJECT

PREPARED BY	APPROVED BY
	L C Meyer
ROGER NELSON METEOROLOGIST	L. C. MEYER PROJECT MANAGER

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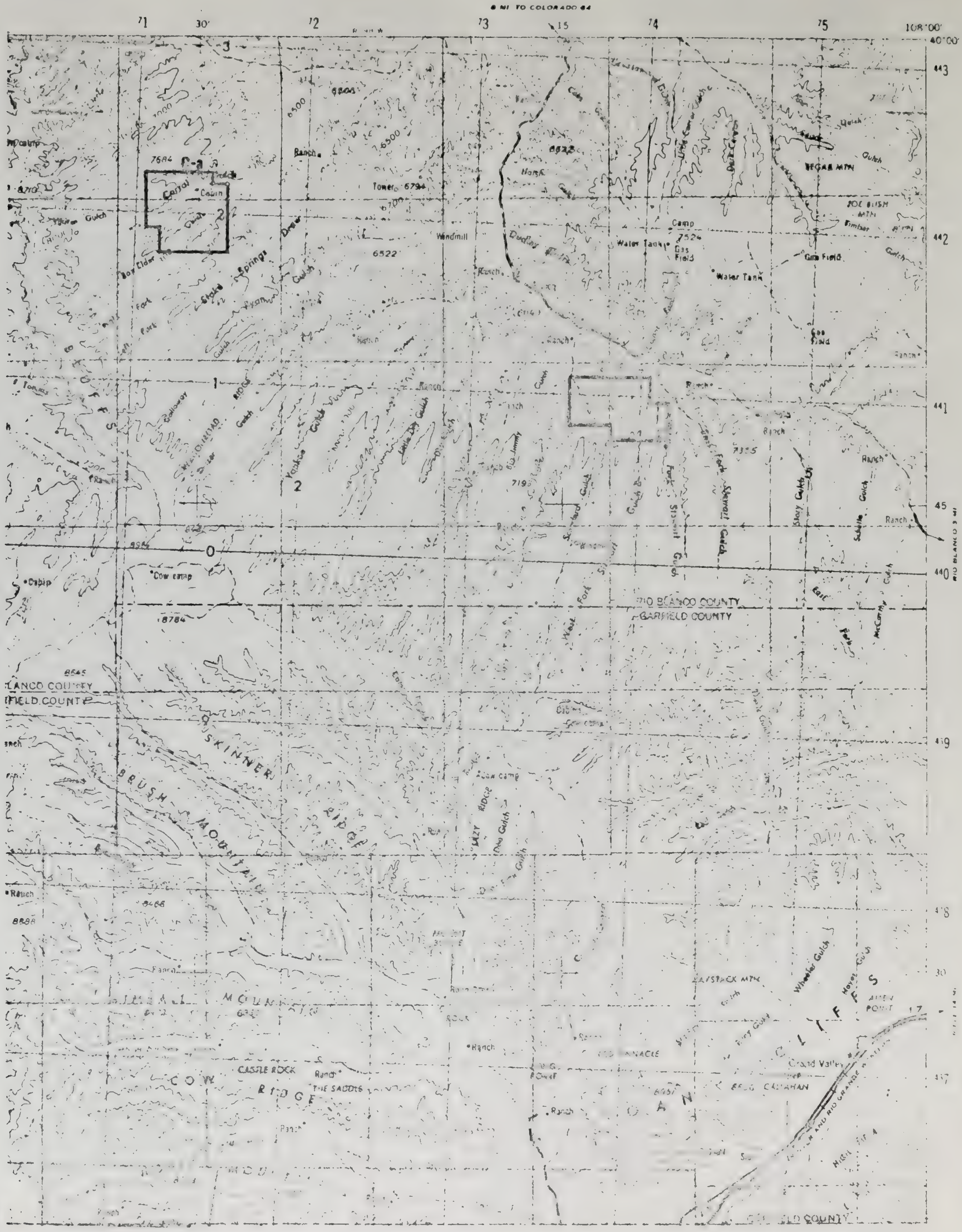
1.0 INTRODUCTION

This report summarizes and presents comparisons between upper air data taken over Federal Oil Shale Tracts C-a and C-b and Grand Junction, Colorado as a continuing series of programs (one per season) to determine the upper air structure of the Piceance Creek Basin. A topographic map of the oil shale tract area is shown in Figure 1. A map showing the relative positions of the tracts and primary National Weather Service stations is shown in Figure 2. The data were taken during the period 20 January through 9 February 1975 with the primary emphasis on the vertical temperature profile and wind structure from the surface to 13,000 feet above MSL. For complete listings of the actual engineering unit data analyzed here, the reader is referred to EG&G report AL-EC-117, "Upper Air Studies Over Federal Oil Shale Tract C-b During Winter 1975" dated March 14, 1975; and EG&G report AL-EC-118, "Upper Air Studies Over Federal Oil Shale Tract C-a During Winter 1975" dated March 14, 1975.

The purpose of these studies was to investigate the temperature and wind structure of the atmosphere over the Federal Oil Shale Tracts as a function of season. The ultimate use of this data will be for inclusion into modeling studies to predict the environmental impact of future oil shale developments.

The studies require 15 days of upper air data. Ideally, each data day would consist of four temperature soundings and the corresponding Pilot Balloon soundings. Recognizing that inclement weather could force cancellation of aircraft flights, and limit Pilot Balloon tracking, a successful data day was defined as one with a minimum of two temperature profiles with one of the two flown down into the valleys below the tracts.

The studies over Tract C-a were performed for the Rio Blanco Oil Shale Project and the studies over C-b were performed for the C-b Shale Oil Project; both by EG&G. National Weather Service data from Grand Junction, Salt Lake City, and Denver were obtained from the EG&G



8 MI. TO COLORADO 64
71
30'
72
73
15
74
75
108°00'
40°00'
443
442
441
45
440
439
438
30
437
C-a
Corral Gulch
Cabin
Box Elder
Fork
Stake Springs Draw
Ryan Gulch
Ranch
Tower 6794
Windmill
Dudley Bluffs
Horse
Camp
7524
Gas Field
Water Tank
YEGAS MTN
JOE BUSH MTN
Timber
Gas Field
Gulch
Ranch
HEADSTAD RIDGE
Yellow Creek
Gulch
7193
Stewart Gulch
Sheep Gulch
Schutte Gulch
Ranch
McCarthy Gulch
RIO BLANCO COUNTY
GARFIELD COUNTY
Cow camp
8784
Cabin
BLANCO COUNTY
GARFIELD COUNTY
SKINNER RIDGE
BRUSH MOUNTAIN
LAZY RIDGE
Cow camp
Ranch
8466
8888
HAYSTACK MTN
Wheeler Gulch
CLIFFS
Grand Valley
CASTLE ROCK
THE SADDLE
COW RIDGE
Ranch
GARFIELD COUNTY

Figure 1

Topographic Map of the Area Surrounding Federal Oil Shale Tracts C-a and C-b

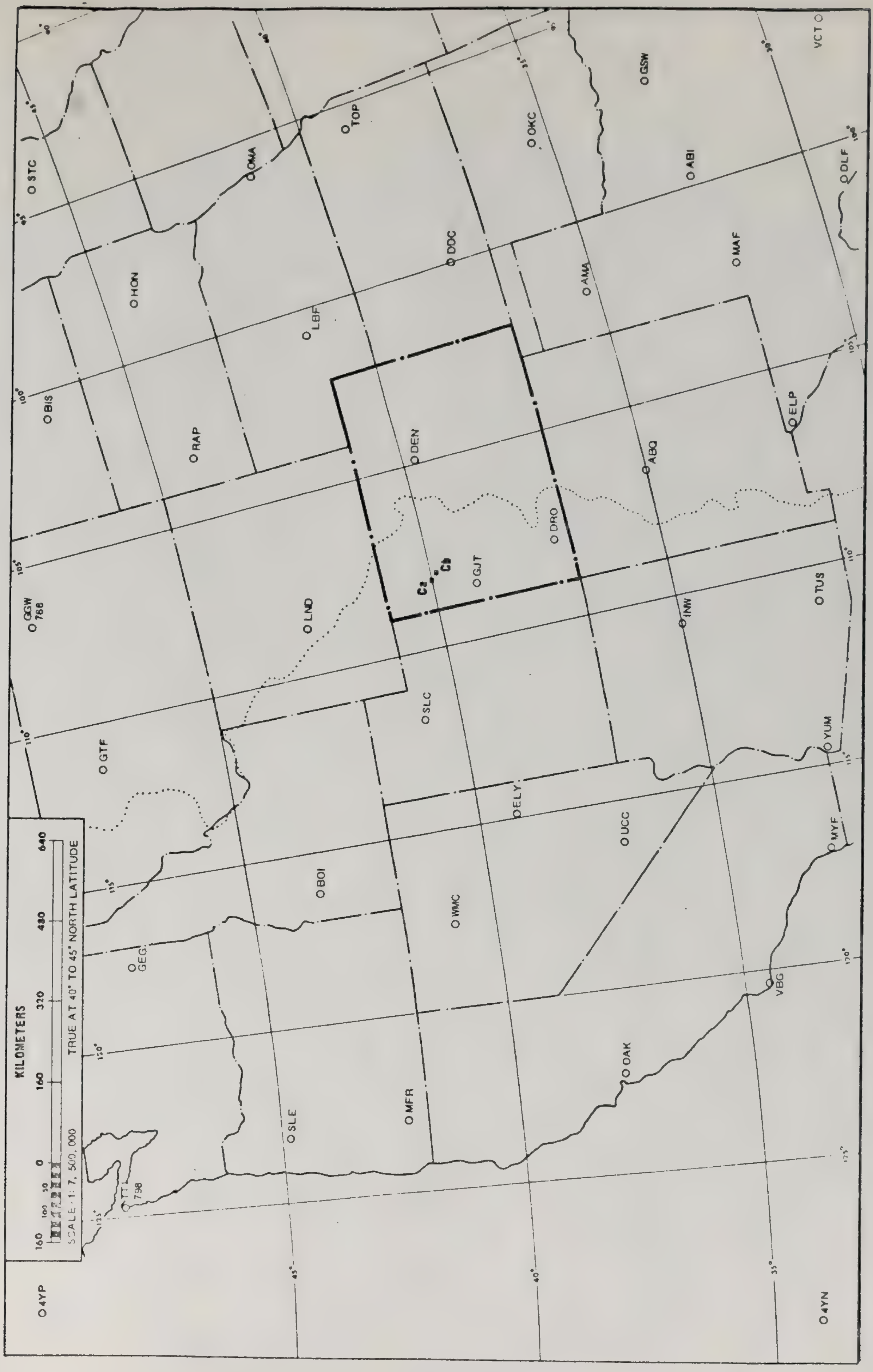

KILOMETERS
160
100
50
0
160
320
480
640
SCALE 1: 7,500,000
TRUE AT 40° TO 45° NORTH LATITUDE
STC
OMA
TOP
OKC
GSW
VCT
ABI
DLF
HON
DDC
AMA
MAF
BIS
LBF
RAP
DEN
ELP
ABQ
DRO
GJT
Ca
Cb
GGW
768
LND
INW
TUS
GTF
SLC
ELY
YUM
BOI
UCC
MYF
GEG
WMC
VBG
OAK
SLE
MFR
TTI
798
4YP
4YN
45°
40°
35°
30°
100°
105°
110°
115°
120°
125°

Figure 2

field office in Durango over a Weather Service facsimile machine. Tract C-a and Tract C-b soundings were made four times daily at approximately 05:00, 08:00, 11:00 and 17:00 hours MST whereas National Weather Service soundings were only made at 05:00 and 17:00 hours MST. The purpose of the 08:00 and 11:00 soundings over the oil shale tracts was primarily to investigate the formation and breakup of surface inversions.

1.1 BRIEF SUMMARY

The topography of the Federal Oil Shale Tracts C-a and C-b is complex. The wind structure above the tracts depends heavily upon the upper (500 mb) level flows as well as the detailed surface topography. In general, the upper level winds are predominantly from the west, although during the study period, the winds ranged from throughout all sectors. In addition, wind speeds during the early morning hours were significantly smaller and less gusty than during the remainder of the day.

The temperature structure above the tract followed the dry adiabatic lapse rate very well above about 1500 feet above the surface on clear days. On moist days (with showers or snow squalls in the area), the temperature structure showed more of a wet adiabatic behavior. The lower 1500 feet above the surface exhibited a somewhat more complex profile with inversions in the morning hours which generally broke up by early afternoon or late morning. The temperature inversions were more pronounced in the valleys below the tract. The average mixing layer depth in the presence of an inversion at the early morning sounding (05:00 MST) was about 980 feet above the main meteorological tower (7400 MSL) over C-a and about 1200 feet above the main meteorological tower (7000 MSL) over C-b. At the mid-morning sounding, under the influence of an inversion, the average mixing layer depth was about 840 feet over C-a and about 860 feet over C-b. These values indicate that there is a significant difference in the mixing layer heights and intensities when an inversion is present compared with Fall, 1974, upper air data (References 3, 4, and 5).

Several flights flown to determine the horizontal temperature structure at constant altitude, but at varying height above the surface (dependent upon terrain), showed very little horizontal dependence; although the closest of these to the surface was not performed in the presence of an inversion. However, from data collected from surface based measurements of the actual temperature, it is apparent that large horizontal temperature gradients can exist when a surface based vertical temperature inversion is present.

2.0 DATA ACQUISITION TECHNIQUES

2.1 TEMPERATURE PROFILES

The vertical temperature structures from the surface to 13,000 feet MSL were determined four times daily using a shielded sensitive thermistor mounted on a wing strut of a light aircraft based at Rifle, Colorado. The four flights were made at approximately 05:00, 08:00, 11:00, and 17:00 hours MST on days when the weather permitted safe flying. During daylight hours, soundings were made to within 100 feet of the surface; during night flights, 500 foot safety margins were observed. In addition, flights were made down nearby valleys to determine the temperature structure of the air actually below the monitoring sites on the 08:00 and 11:00 hour soundings.

The instrument used for the temperature recordings was an EG&G portable temperature recorder Model 702 which is designed to achieve high-resolution temperature recording from a moving airplane or automobile. The unit is capable of measuring temperatures in the range from -30°C to +32°C with an absolute accuracy better than ±0.2°C, although for this operation the unit was calibrated to within ±0.1°C. The specifications of the Model 702 are given in Table 1.

TABLE 1

Specifications:	
Sensor Probe:	
Type	Thermistor head in weatherproof radiation shield
Range	$-30^{\circ}C$ to $+32^{\circ}C$ in six ranges
Accuracy	$\pm 0.2^{\circ}C$ absolute
Time Response	less than 2 seconds for 63% recovery in still air
Recorder:	
Resolution	$.1^{\circ}C$
Process	Meter and permanent, inkless on pressure sensitive paper
Chart Speed	60 inches per hour
Chart Paper	63 feet by 2 5/16 inch usable width
Power	Nickel-cadmium batteries, 10-hr operation

The flight path of the aircraft was made as consistently as possible with a pre-established plan. The early morning sounding (05:00 MST) and later afternoon sounding (17:00 MST) started as close to the top of the Tract meteorological towers as conditions would permit. If at all safely possible, close fly-bys of the tower tops (200 foot above the local surfaces) were made. This provided checks upon the aircraft altimeter which was used for height determinations for the remainder of the flights. In all cases, over the entire course of the study period, the altimeter indicated an elevation of 7200 ±50 feet above MSL during the C-b tower fly-by and 7650 ±50 feet above MSL during the C-a tower fly-by. The true tower tops are 7180 and 7610 feet above MSL, respectively.

During the 08:00 and 11:00 soundings over Tract C-b, the flight path called for a slow gradual climb from approximately 50 feet above the surface of the Piceance Creek (in the direction towards Tract C-b and the meteorological tower) to an actual top-of-tower fly-by. Once having made the tower fly-by to check the altimeter setting, the aircraft began its normal ascent to 13,000 feet in an approximately 1 km diameter spiral. For the same soundings over Tract C-a, the plane spiraled down from 13,000 feet to make a tower-top fly-by. The flight path continued down into Corral Gulch below the tract until an elevation of about 6400 feet MSL was reached. This, by necessity, required that the measurement of the temperature at a level comparable with the elevation of the base of either tower be made horizontally displaced from the tower itself. On the normal flight paths made by the aircraft, the temperature measurement made at the level of the base of the C-a tower was approximately 1 km to the east, and the temperature measurements made at the level of the base of the C-b tower was approximately 1 km to the north. Because of this, data below about 7200 feet at C-b and below about 7600 feet at C-a cannot accurately be termed 'vertical' temperature soundings, even though the 10 feet/sec ascent/descent rate was maintained along the horizontal portion of the flight path. Altitude markings were made on the temperature chart in real time by an observer. While the pilot attempted to maintain a constant rate of ascent, this was not always possible due to turbulence. For this reason, temperature/altitude readings were taken from the charts only at points marked with a distinct altitude. No interpolations between markings were used.

2.2 WINDS ALOFT

The vertical wind structures from the surface to 13,000 feet MSL or cloud base were determined four times daily using 30 gram pilot balloons in conjunction with theodolites. The theodolites were aligned to magnetic north and then corrected to true north by rotating them 15° counterclockwise. The balloons were carefully "weighed off" using a standard National Weather service kit for 30 gram balloons inside an enclosed area to rule out any influence which wind might cause and released 800 meters northwest of the C-b main meteorological tower and 60 meters northeast of the C-a main tower. These balloons rise at an approximately constant rate of 600 feet/minute (Reference G). During the night, small water activated batteries connected to a tungsten filament bulb were attached to the balloon before it was weighed off to allow optical tracking.

The balloons were released at about 05:00, 08:00, 11:00 and 17:00 hours MST on days in which temperature soundings were made. At 30 second intervals, azimuth and elevation were vocally recorded to within 0.1°, although interpolations were attempted to with 0.02°. The balloons were kept in the field of view at all times and only after the sounding was completed were the voice records transcribed to data sheets.

3.0 DATA PRESENTATION

During the course of the 21 day study period, soundings over the two oil shale tracts were aborted on six days due to inclement weather causing dangerous flying conditions. A general description of the weather conditions for the 21 day period encompassing the 15 days of successful data collection is given in Table 2.

The release times of the pilot balloons (pibals) and the temperature sounding times for the oil shale tracts along with the height attained by the balloons and the ground temperature are presented in Table 3.

The topography of both of the Federal Oil Shale Tracts, C-a and C-b is complex. Both tracts consist of several finger-like plateaus sloping generally down to the northeast. Between plateau-like regions are broad steep-sided valleys. The elevation differences between plateau-like regions and valleys are about 300 to 400 feet, both having the same general slope. Tract C-a slopes to the northeast while Tract C-b slopes to the north-northeast. The elevation of the main meteorological monitoring site at Tract C-a is approximately 7400 feet and at Tract C-b approximately 7000 feet.

TABLE 2

WEATHER CONDITION LOG

Date	Conditions
1/20/75	05:00 sounding cancelled due to poor flying conditions. After sunrise, few high alto cirrus until noon, turning to stratus with high gusty winds from southwest as storm front moved into the region.
1/21/75	Two-inch snow accumulation, high winds, poor visibility as snow passed through region all flights cancelled.
1/22/75	Instrumentation problems with temperature recorder - repaired and recalibrated; no soundings. Weather clear, light winds, few high cirrus.
1/23/75	Ceiling at 05:00 MST was 12,000 (snow). Alto-stratus over entire Piceance Creek region, ceiling 12,000 to 13,000 at 08:00 MST. Alto-stratus (20 to 30%) at about 14,000 for remainder of day.
1/24/75	Light cloudiness through noon. Surface winds became gusty and strong in the afternoon about 14:00 MST bringing small snow storms through the area. Completely overcast at 17:00 MST and scattered light snow showers.
1/25/75	Heavy cloud cover (less than 9500) over Rifle forced 05:00 MST sounding cancellation. Cloud base lifting to 14,000 with 50 to 60% cover by 08:00 MST. Very strong winds from northwest for remainder of the day.
1/26/75	High winds throughout day. Some light alto-cirrus during the morning, clear in the afternoon. Surface winds from southwest gusting to 40 mph.
1/27/75	Complex weather picture, including Pacific Northwest front and cold Canadian air mass moved into area during the night. Completely overcast with snow showers in the area. All soundings cancelled.
1/28/75	Weather pattern remained over area. Severe turbulence, low ceiling, snow and freezing rain forced cancellation of all soundings. Accumulation throughout two day period of 6 to 8 inches of new snow.

TABLE 2 (Cont'd)

Date	Conditions
1/29/75	Clear and extremely cold in the morning with intense low surface inversions. Another weak short wave impulse moved into the region in late afternoon bringing low clouds obscuring wind soundings.
1/30/75	Snow throughout entire 24-hour period. Local accumulation of four to five inches. Scattered snows began clearing in early evening. No soundings.
1/31/75	Heavily overcast in Rifle from 05:00 through 10:00 MST. Clear over tracts in Piceance Creek Basin. Temperature soundings cancelled at 05:00 and 08:00 MST due to poor conditions at airport. Late afternoon cloudiness developed bringing scattered snow storms.
2/1/75	Snow over Piceance Creek area at 05:00 MST, sounding cancelled. Clearing to partly cloudy at 08:00 MST over sites (1" accumulation), although high winds and clouds persisted until midafternoon.
2/2/75	Extremely clear all day; moderate southwest winds.
2/3/75	Clear through midmorning. High cirro-stratus formed by 12:00 MST continuing to become completely overcast by 17:00. Light surface winds throughout the day.
2/4/75	Moderate winds throughout entire day; approximately 30 to 40% cloud cover (alto-cirrus) until early evening with an increase in cloudiness and widely scattered light snowfall. Late afternoon sounding (17:00) cancelled.
2/5/75	High winds and scattered snowfall during the night. Heavy cloud cover and severe turbulence forced cancellation of all soundings.
2/6/75	Early morning cloudiness (moderate winds) with isolated snowfall becoming partly cloudy by mid-morning. Calm surface conditions and weather clear throughout afternoon.
2/7/75	05:00 and 08:00 MST soundings cancelled due to low clouds (9500 ft) and poor visibility in the Rifle area. Scattered snowfalls in the area. Clearing to 50% cover by noon with high winds.

TABLE 2 (Cont'd)

Date	Conditions
2/8/75	High cirrus accompanied with high winds throughout morning. Alto-stratus at about 12,000 MSL moved into area in mid-afternoon with no precipitation.
2/9/75	Severe turbulence with a 12,000 foot ceiling until noon. Scattered snowfall (moderate to heavy) in the area. Ceiling lowering with more intense snowfall combined to cancel 11:00 and 17:00 MST soundings.

TABLE 3 - C-a

DATE	FLIGHT NUMBER	TIME OF PIBAL RELEASE	TIME OF TEMPERATURE SOUNDING	PIBAL HEIGHT (FEET)	SURFACE TEMP (°C)
1/20/75	1	05.02	msg	6000	-2.1
	2	07.55	08.20	6000	-1.1
	3	10:55	11.03	6000	-0.5
	4	17.00	17:16	6000	
1/23/75	1	04:36	05:20	6000	-4.9
	2	08:13	08:05	5400	-4.1
	3	10:49	11:15	6000	- .2
	4	17:21	16:50	3600	
1/24/75	1	05:08	05:10	6000	-1.0
	2	08:43	07:59	6000	0.0
	3	11.02	11:02	6000	2.5
	4	17:02	17.20	6000	3.8
1/25/75	1	05:03	msg	6000	3.9
	2	08 08	08.10	6000	4.8
	3	11 01	11 1[illegible]	6000	7.5
	4	17:02	16:57	6000	7.2
1/26/75	1	05:10	05.08	6000	2.0
	2	07.55	08.26	6000	2.8
	3	10:56	11.03	6000	5.7
	4	16 56	16 59	6000	6.7
1/29/75	1	04:58	05:50	5400	-10.4
	2	07:50	07:50	3000	-9.4
	3	10:47	11:05	6000	-6.0
	4	17:00	16:55	3000	-5.0
1/31/75	1	msg	msg	msg	msg
	2	08.24	msg	3600	-3.6
	3	11:04	10 50	6000	-1.4
	4	16.35	16 47	3600	-3.6
2/1/75	1	msg	msg	msg	msg
	2	08 00	08.06	4200	-4.9
	3	10 55	11:11	3000	
	4	16.55	16.46	6000	-2.8
2/2/75	1	05 02	05:10	5400	-4.7
	2	08:08	07:55	6000	-5.4
	3	11:04	11.02	6000	-0.5
	4	16:54	16.45	6000	- .9
2/3/75	1	05 05	04.58	6000	-2.9
	2	08:14	07.52	6000	-2.7
	3	10 59	10 58	6000	0.2
	4	16:57	16.43	6000	-1.3
2/4/75	1	05:20	04.57	6000	-4.3
	2	08:00	07.56	6000	-4.8
	3	11.12	11:00	6000	-2.9
	4	16:50	NA	6000	-3.0
2/6/75	1	msg	05:59	msg	-11.2
	2	08 15	07:54	6000	msg
	3	11 00	10 51	2400	-6.9
	4	17.00	16 50	1800	-6.8
2/7/75	1	NA	NA	NA	-6.0
	2	08 40	NA	6000	-6.0
	3	10.55	11:10	6000	-1.6
	4	16:49	17:47	6000	-2.2
2/8/75	1	05 11	05.30	3000	-0.6
	2	08 11	07 51	6000	-0.9
	3	10 56	11 16	3000	2.7
	4	17 14	16.55	3600	1.8
2/9/75	1	04 54	05 35	3000	-0.7
	2	07 54	07 45	2400	-1.5
	3	11 00	NA	3000	1.4
	4	NA	NA	NA	NA

TABLE 3 - C-b

DATE	FLIGHT NUMBER	TIME OF PIBAL RELEASE	TIME OF TEMPERATURE SOUNDING	PIBAL HEIGHT (FEET)	SURFACE TEMP(°C)
1/20/75	1	msg	NA	msg	msg
	2	08.05	08:50	4200	-4.0
	3	11.16	11:41	5400	2.5
	4	17.06	17.51	6000	0.3
1/23/75	1	05.02	05.45	6000	msg
	2	08.27	08.38	3600	-2.6
	3	11:00	11:50	6000	2.8
	4	17:23	17:10	6000	2.9
1/24/75	1	05:10	05:36	6000	-2.2
	2	08 00	08:20	6000	-3.1
	3	11:02	11.28	6000	2.4
	4	16:49	17 14	5400	msg
1/25/75	1	NA	NA	NA	NA
	2	08 00	08.38	6000	2.2
	3	11.00	11.44	6000	7.3
	4	17.00	17:22	6000	7.8
1/26/75	1	msg	05:27	msg	2.2
	2	08:15	08 46	3000	4.2
	3	msg	11 26	msg	6.9
	4	16.50	17:26	4200	5.0
1/29/75	1	05:02	05:25	6000	-13.3
	2	08.02	08 20	6000	-9.6
	3	11.00	11:30	6000	-2.5
	4	17.10	17.20	4200	-3.1
1/31/75	1	NA	NA	NA	NA
	2	07.55	NA	5400	-5.7
	3	10.55	11:20	6000	-1.9
	4	msg	17:21	msg	msg
2/1/75	1	05.12	NA	3000	-3.9
	2	08 20	08 31	6000	-3.6
	3	10.56	11:35	6000	-0.6
	4	17.53	17:16	6000	-1.7
2/2/75	1	05.20	05:34	6000	-7.0
	2	07.53	08 30	4200	-5.6
	3	11 00	11.27	6000	1.7
	4	16:47	17.12	6000	0.2
2/3/75	1	05:12	05 23	6000	-5.2
	2	08.03	08:16	6000	-4.4
	3	11:00	11.23	6000	0.8
	4	16:47	17.07	6000	2.2
2/4/75	1	05:09	05 24	6000	-6.9
	2	07:57	08:21	5400	-5.0
	3	11:10	11:19	6000	-1.4
	4	16:59	17:15	6000	-2.5
2/6/75	1	05.20	06:28	4800	-2.0
	2	msg	08 23	msg	msg
	3	11.10	11:19	6000	-5.1
	4	16 59	17:15	6000	-6.9
2/7/75	1	NA	NA	NA	msg
	2	08 40	NA	4800	-4.7
	3	11:01	11:38	3600	-1.7
	4	16.55	17:18	6000	-1.9
2/8/75	1	05 01	06.01	4800	-3.3
	2	08 10	08 27	4800	-1.1
	3	10 50	11 41	4200	1.7
	4	16.57	17 18	5400	2.8
2/9/75	1	05 03	06 05	6000	2.8
	2	08 25	06 10	4200	0.8
	3	11 00	NA	2400	3.06
	4	NA	NA	NA	NA

3.1 VERTICAL TEMPERATURE PROFILES

The vertical temperature structures of the air over Grand Junction, Colorado, during the period from 20 January 1975 to 9 February 1975 are plotted on Skew T-Log P charts in Appendix A. Each chart has one normal sounding plotted. The heavy right hand line is the temperature sounding; the light left hand line is the plot of the dew point depression temperature profiles corresponding to the air temperature curves. Grand Junction is abbreviated GJT. One noteworthy similarity in the NWS soundings is the presence of the surface based inversion in the 05:00 MST soundings in virtually every plot. Although few were severe and none persisted throughout the day, morning inversions at this location were the rule rather than the exception throughout the study period.

The vertical temperature profiles over Federal Oil Shale Tracts C-a and C-b for each individual sounding are given in Appendix B along with any soundings made at the same time by the NWS at Grand Junction. The profiles from each tract are plotted alongside each other to allow quick visual (qualitative) comparison. The temperature values are plotted as a function of absolute elevation above sea level. For this reason, most of the early morning surface inversions apparent at Grand Junction in Appendix A do not show up in these comparison plots.

Because the 05:00 MST sounding was made at night, the temperature profiles were not obtained closer than about 500 feet to the surface. The disconnected symbols plotted at the elevations of the bases of the two tracts' main meteorological towers are the results of temperature measurements made at essentially ground level at the same time as the respective aircraft temperature soundings. A straight line between the lowest point on any actual sounding (above tract elevation) and the surface value provides an estimate of the lapse rate within this interval. Although the temperature fine structure is not evident, the slope of the line gives a lower bound on the maximum lapse rate in the unprofiled height interval.

On the 08:00 and 11:00 MST flights, the temperature profile was extended by flying down nearby valleys to altitudes as much as 700 feet below the plateau level (both tracts have proposed plant sites on the plateau-like regions). This procedure revealed the fact that in most cases, the inversion intensity below the plateau levels was much more severe than at the proposed plant altitudes. An excellent example of this type of behavior is shown in the temperature profiles taken at about 08:00 MST 23 January 1975 and at 08:00 MST on 29 January 1975.

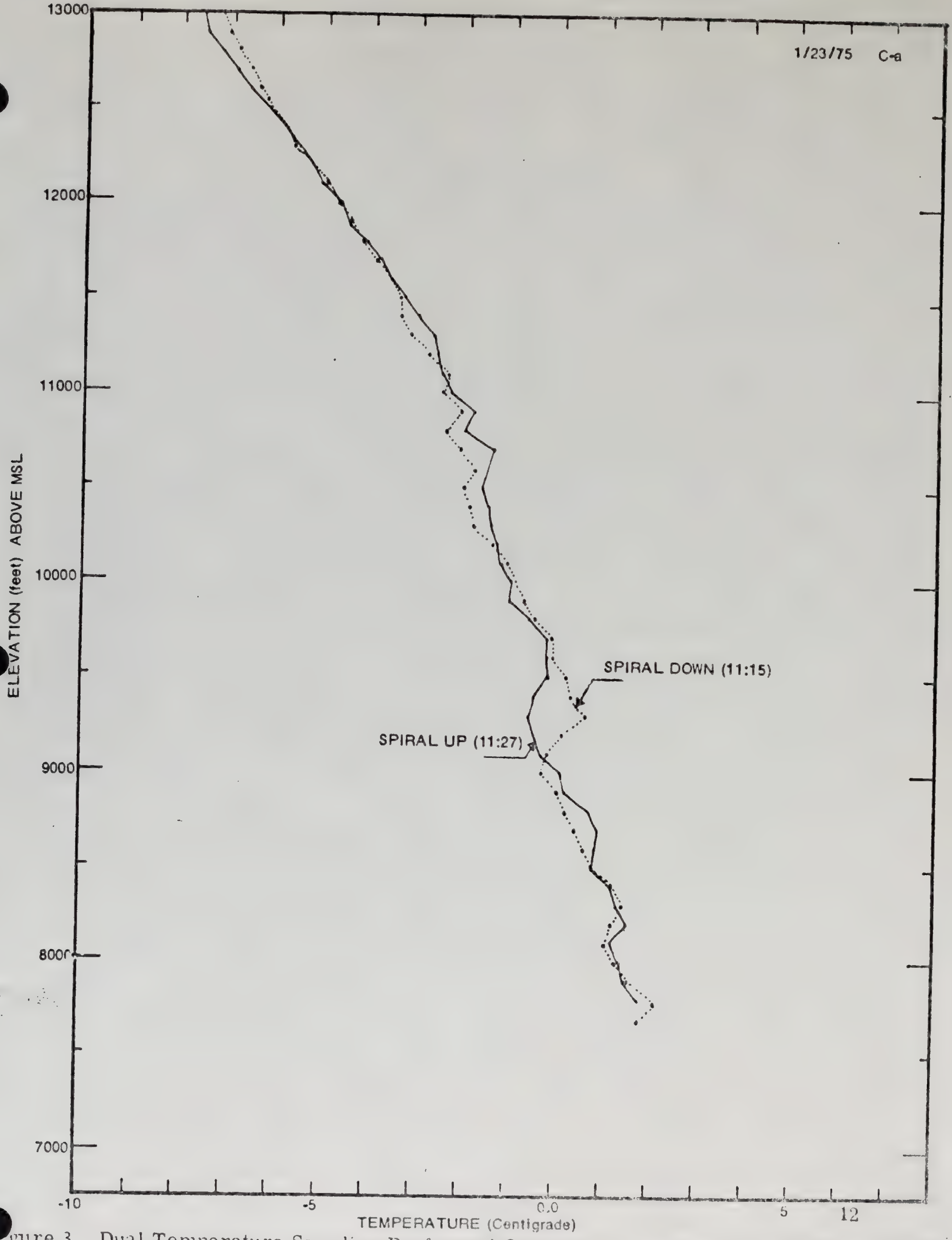
From the limited data available from the two seasonal studies (Fall and Winter) conducted so far, it seems that the intensity of the surface inversions in the valleys below the tracts may be more intense in the Winter than in the Fall. Over the 15 days of data collection during the Winter study, nine of these days showed evidence of isothermal or inversion conditions. Although the Fall study showed a higher percentage of inversion based days, it should be pointed out here that only four of the 15 days of data collection in the Winter were without snowfall in the area, indicating an extended period of generally unstable precipitative conditions.

The disconnected symbols plotted at the elevations of the bases of the towers (7400 feet C-a; 7000 feet C-b) are the results of surface temperature measurements. The surface measurement made at C-a was the temperature at the 10 meter level of the main meteorological tower. The surface measurement made at C-b was done with a sling psychrometer a few feet above the ground. Both were taken at about the same time the aircraft made its top-of-tower fly-by. These measurements show a large difference (in a significant number of cases), which in almost every case, indicate a colder surface temperature than the sounding temperature value at the absolute elevation of the surface based measurement. When no inversion was present, or in the afternoon, the surface measurements seemed to agree more with the sounding measurements at the same elevation. Under the influence of an intense surface based vertical temperature inversion, large horizontal gradients can and do occur introducing the apparent uncertainty into the measurement.

As a check upon the depth and extent of these horizontal temperature gradients, several special flights were flown throughout the Piceance Creek basin. Data validity was checked by flying dual soundings (one immediately following the other) over both tracts. The results of these two checks are shown in Figures 3 and 4. The first of these is a dual sounding flown each within 20 minutes of the other directly over the Tract C-a meteorological tower at about 11:30 on 23 January 1975. The flight plan took the aircraft down over C-a at 11:15 MST, then immediately back up (to 13,000 feet MSL) at 11:27. The similarity of the plots is apparent; even the small elevated inversion at about 9,500 feet MSL is easily discernible in both plots. The second data check was a dual sounding over Tract C-b at about 12:00 on 23 January 1975 (Figure 4); here the aircraft began its climb up over C-b at 11:50 MST, then immediately descended (from 13,000 feet MSL) at 12:10. Again, the similarity of the soundings is apparent (small elevated inversion at about 11,000 feet MSL). In the 11:50 MST sounding, a weak and shallow surface inversion existed. When the aircraft returned to the same elevation on the descent phase of the 12:10 sounding, the inversion structure was not apparent. Although it is entirely possible, it seems unlikely that the inversion 'burned off' in only 30 minutes. A more probable explanation of the discrepancy is that it arises from a slightly different flight path (different terrain below).

A further check flight called for a normal sounding up over Tract C-b and then down over the Rock School House (approximately 8 km North of C-b in the Piceance Creek valley). The C-b sounding included the horizontal extent used for all 08:00 and 11:00 MST flights, whereas, the Rock School sounding maintained an approximately 1 km diameter downward spiral. The results of these measurements are shown in Figure 5 (excellent agreement).

Two constant level-constant speed flights were made with an without an inversion present. The first of these is shown in Figure 6, [illegible]



gure 3 Dual Temperature Sounding Performed Over Tract C-a About 11:30 MST on 1/23/75.

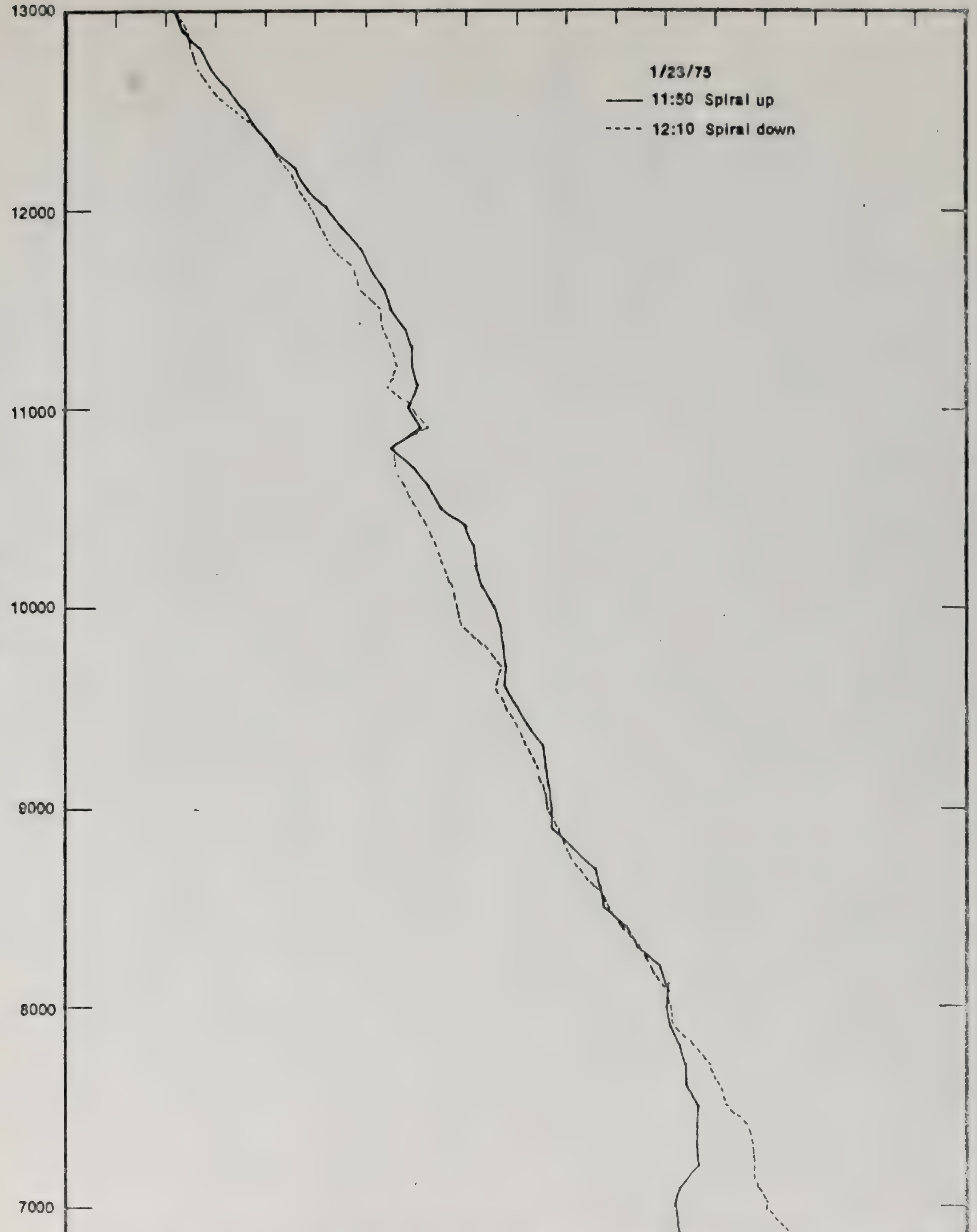


Figure 4 Dual Temperature Sounding Performed Over Tract C-b about 12:00 MST on 1/23/75

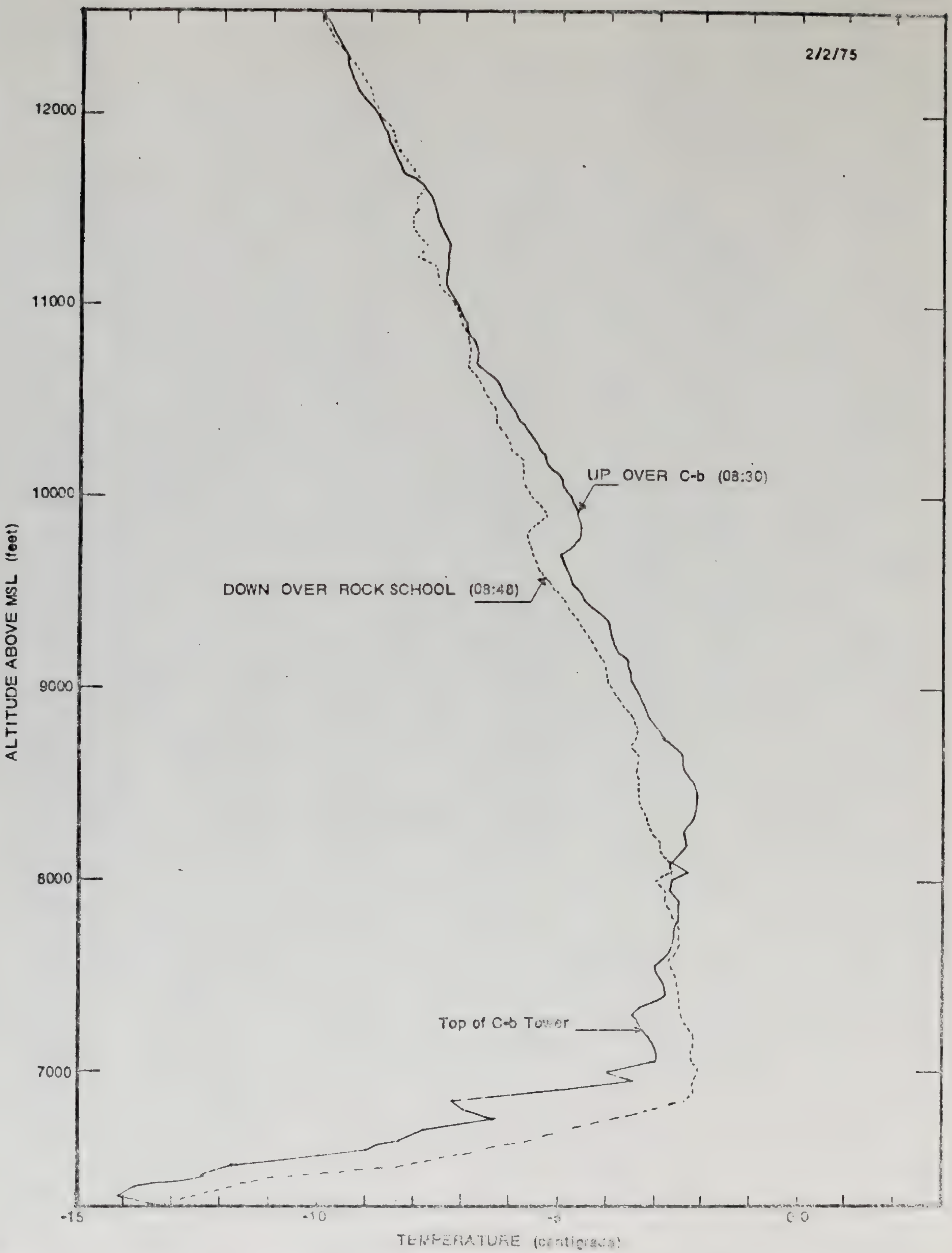


Figure 5 Dual Temperature Sounding Performed Up Over Tract C-b and Down Over the Rock School House 8 km to the North on 2/2/75

an inversion present below the top of the Tract (7,000 feet). This flight was made at 7,200 feet above MSL from over the Rock School House to the top of the 60-meter meteorological tower on Tract C-b at 09:12 MST. As can be seen from Figure B-29, an intense surface inversion existed in the Piceance Valley below about 7,000 feet MSL. The temperature during the horizontal check flight stayed within about 1^{o} centigrade over the entire path. The second of the constant level flights (Figure 7) was made without a surface inversion present. The aircraft flew from the approximate head-water end of the Piceance Creek Valley to over the Rock School House while maintaining a 6,400 feet MSL altitude. Again, in the case of no vertical inversion at the elevation of interest, the temperature changed less than about 1^{o} centigrade over the entire path. These indicate that significant horizontal temperature gradients probably only exist when a surface based vertical inversion is present.

3.2 UPPER AIR WIND STRUCTURE

The vertical wind structure over Grand Junction during the 20 January to 9 February 1975 period is plotted on the Skew-T Log-P Charts in Appendix A. Each chart has one normal sounding plotted. The flags are the presentation of the wind portion of the sounding.

A comparison of the detailed pibal trajectories in polar form at the oil shale tracts C-a and C-b for each sounding is given in Appendix C. The plotted points in the hodographs are the projected balloon positions corresponding to each individual sighting. The numbers beside the points give the computed altitude of the balloons in hundreds of feet for that particular sighting. Other non-labeled heights can be determined given that each continuous point is 300 feet vertically displaced from its nearest neighbors. A brief review of all of the comparisons shows that in some cases there is excellent agreement between the two sites and in some others there absolutely is none. In general, there are more cases where there is some agreement between sites than where there is none; however, there

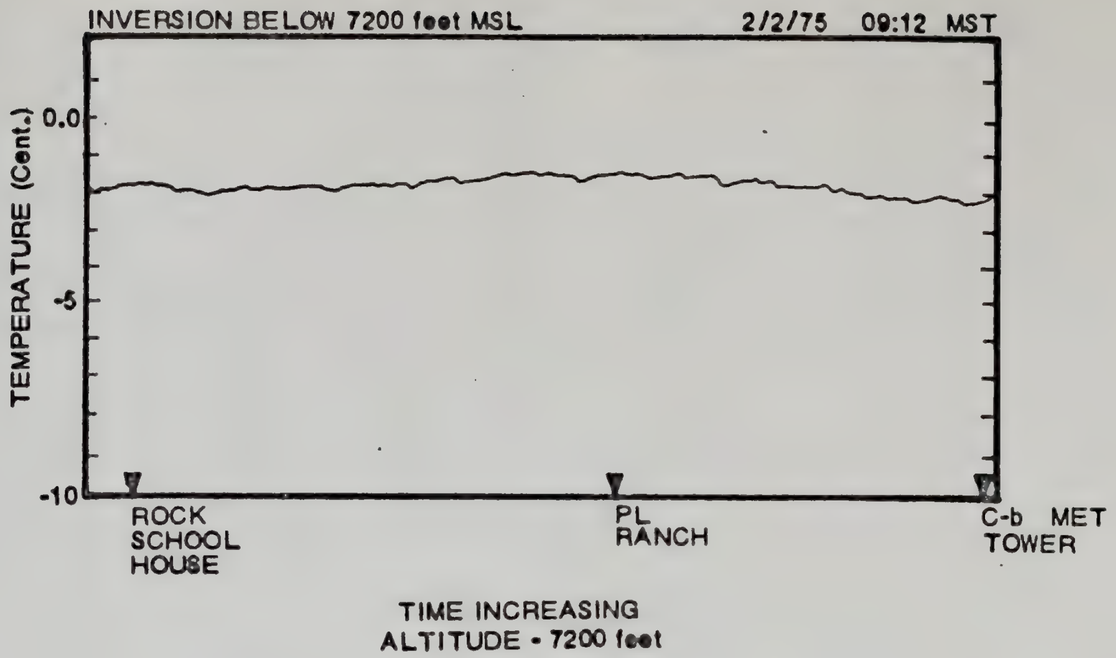


Figure 6 Horizontal Flight Across Piceance Creek from Rock School House to the C-b Met. Tower

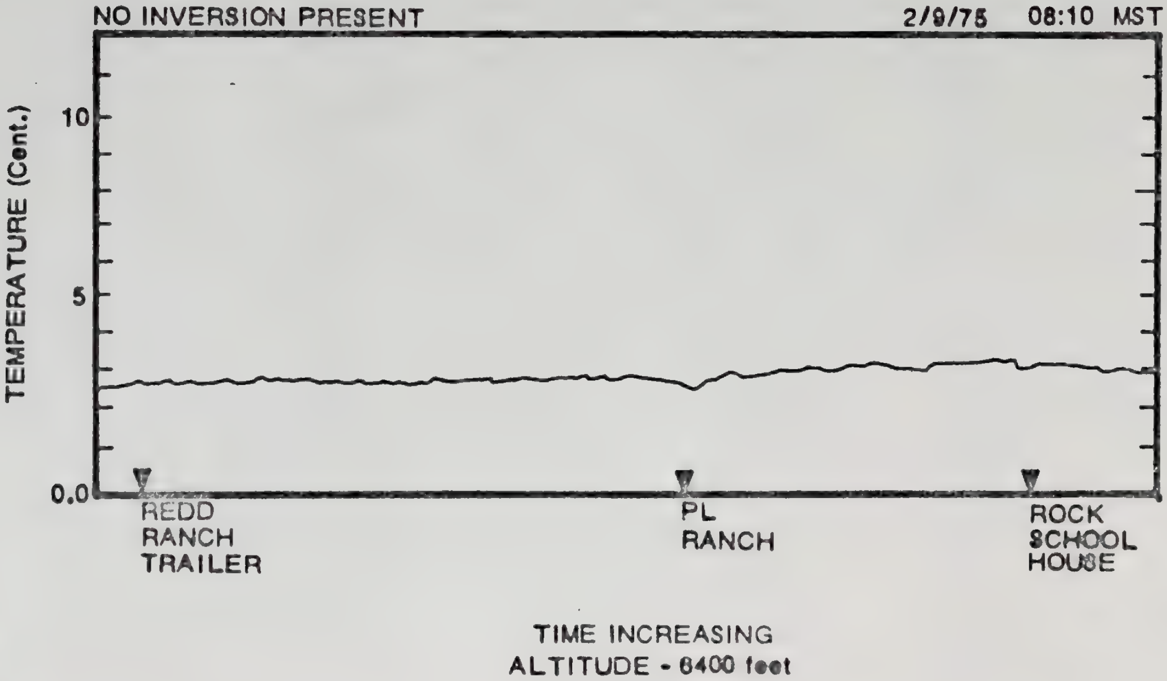


Figure 7 Horizontal Flight Up Piceance Creek Valley from Redd Ranch to the Rock School House

is no apparent pattern for agreement with the limited data available. An interesting case of excellent agreement over the entire 6000 feet height interval is shown in Figures C-23 and C-24 for the 11:00 MST sounding on 2/6/75. The winds are from the south at the surface to about 2500 feet where they gradually turn to the northwest until about 4000 feet, becoming westerly above 4500 feet. Even the wind speeds compare well for this particular sounding. It is of interest, however, to note the lack of correlation between the two sites for the remainder of the soundings on 2/6/75. A check of the temperature profile comparisons reveals that there is no ready agreement between inter-site wind comparisons when temperature correlations are good.

A quantitative comparison between winds at a particular level for the NWS station and the two oil shale tracts also reveals very little good correlation; although here again, there are some cases where there is excellent agreement. Wind direction comparisons as a function of altitude above the local surface between Grand Junction and the tracts are presented in Appendix D.

Because the wind structure as a function of height is dependent upon the surface (topography, roughness, etc.) it was felt that the wind direction comparisons versus height should be referenced to the actual height above the surface at each location. As a spot check on this assumption, the wind direction comparison for a particular day with good agreement between C-a, C-b, and Grand Junction (See Figure D-12) was replotted as a function of absolute height above MSL (Figure 8). Contrary to physical expectations, the wind directions at the sites at about 17:00 MST agreed more when referenced to an absolute elevation than when referenced to the height above each site.

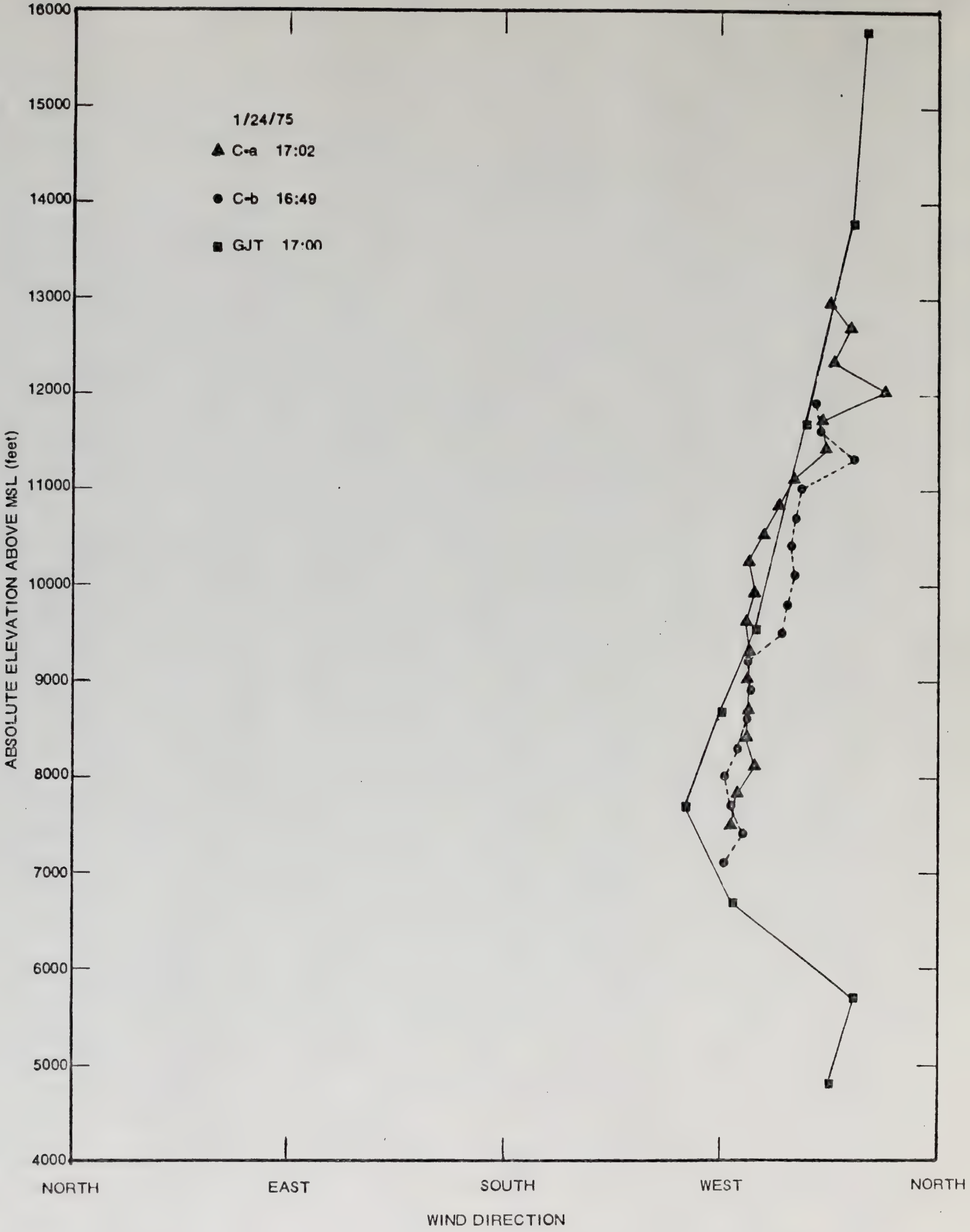


Figure 8. Wind direction versus height comparisons above an absolute reference (MSL) for Sounding Number 4 on January 24, 1975.

LIST OF REFERENCES

1. EG&G Report AL-EC-117, "Upper Air Studies over Federal Oil Shale Tract C-b during Winter 1975," March 14, 1975.
2. EG&G Report AL-EC-118, "Upper Air Studies over Federal Oil Shale Tract C-a during Winter 1975," March 14, 1975.
3. EG&G Report AL-ECP-74-107, "Upper Air Studies over Federal Oil Shale Tract C-b during October 1974," December 6, 1974.
4. EG&G Report AL-ECP-74-108, "Upper Air Studies over Federal Oil Shale Tract C-a during October 1974," December 6, 1974.
5. EG&G Report AL-ECP-74-109, "Upper Air Correlation Studies for October 1974 between Federal Oil Shale Tracts C-a, C-b, and Grand Junction, Colorado," December 6, 1974.
6. Hilfiker, Ronald C., "Meteorological Instrumentation in Air Pollution," National Technical Information Service PB 218 002, EPA.

APPENDIX A

SKEW T - LOG P ATMOSPHERIC CHARTS OF RADIOSONDE DATA TAKEN AT GRAND JUNCTION, COLORADO, DURING 20 JANUARY THROUGH 9 FEBRUARY 1975

Winds are presented along the right hand side of the chart. Major flags represent 10 knots, minor flags represent 5 knots, triangles represent 50 knots. Numbers along side wind significant points denote wind direction with the most significant digit deleted.

Temperature and dew point depression temperatures are plotted with ambient air temperature always greater than dew point.

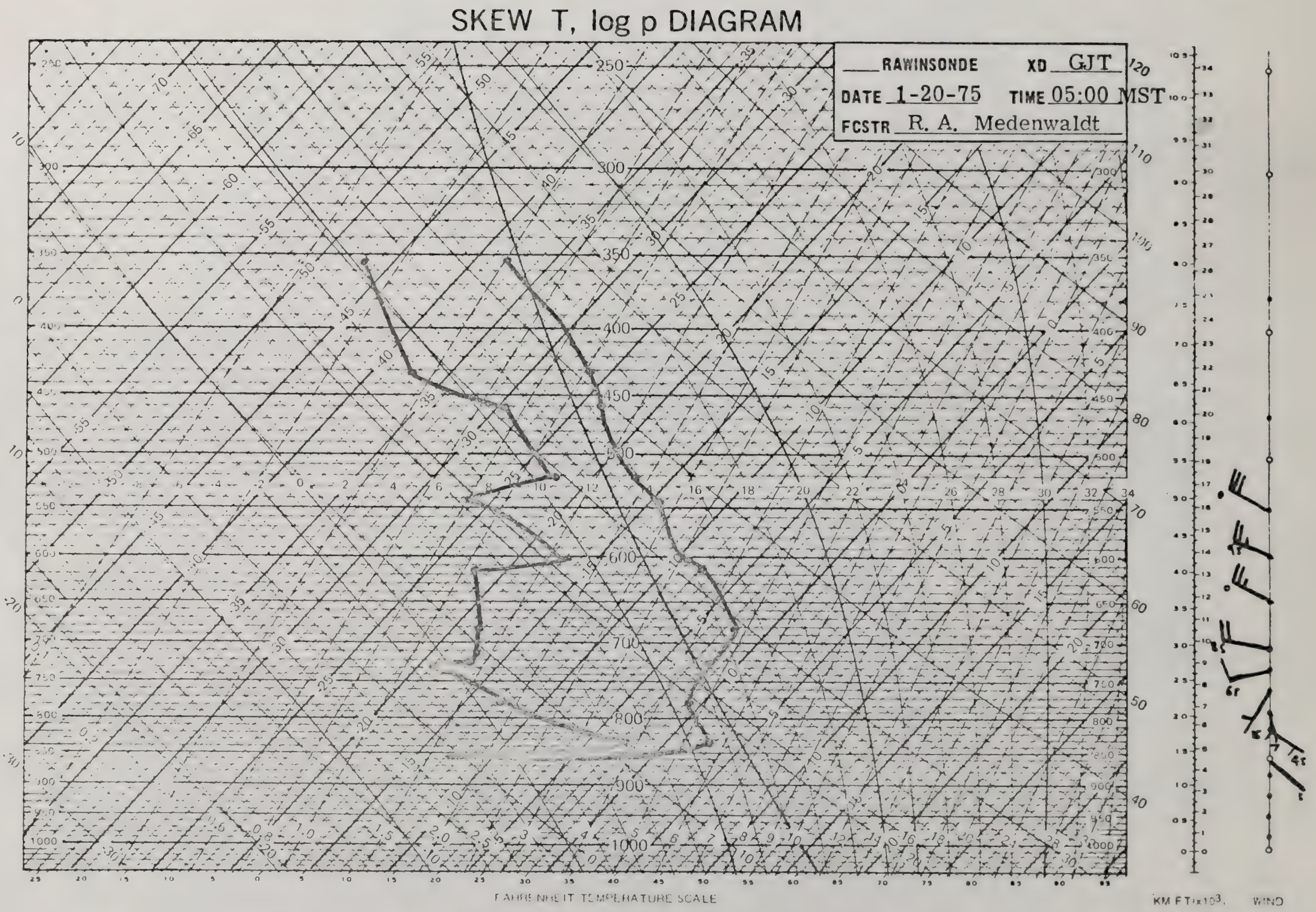


Figure A-1. Radiosonde Sounding Over Grand Junction at 0500 MST on 20 January 1975.

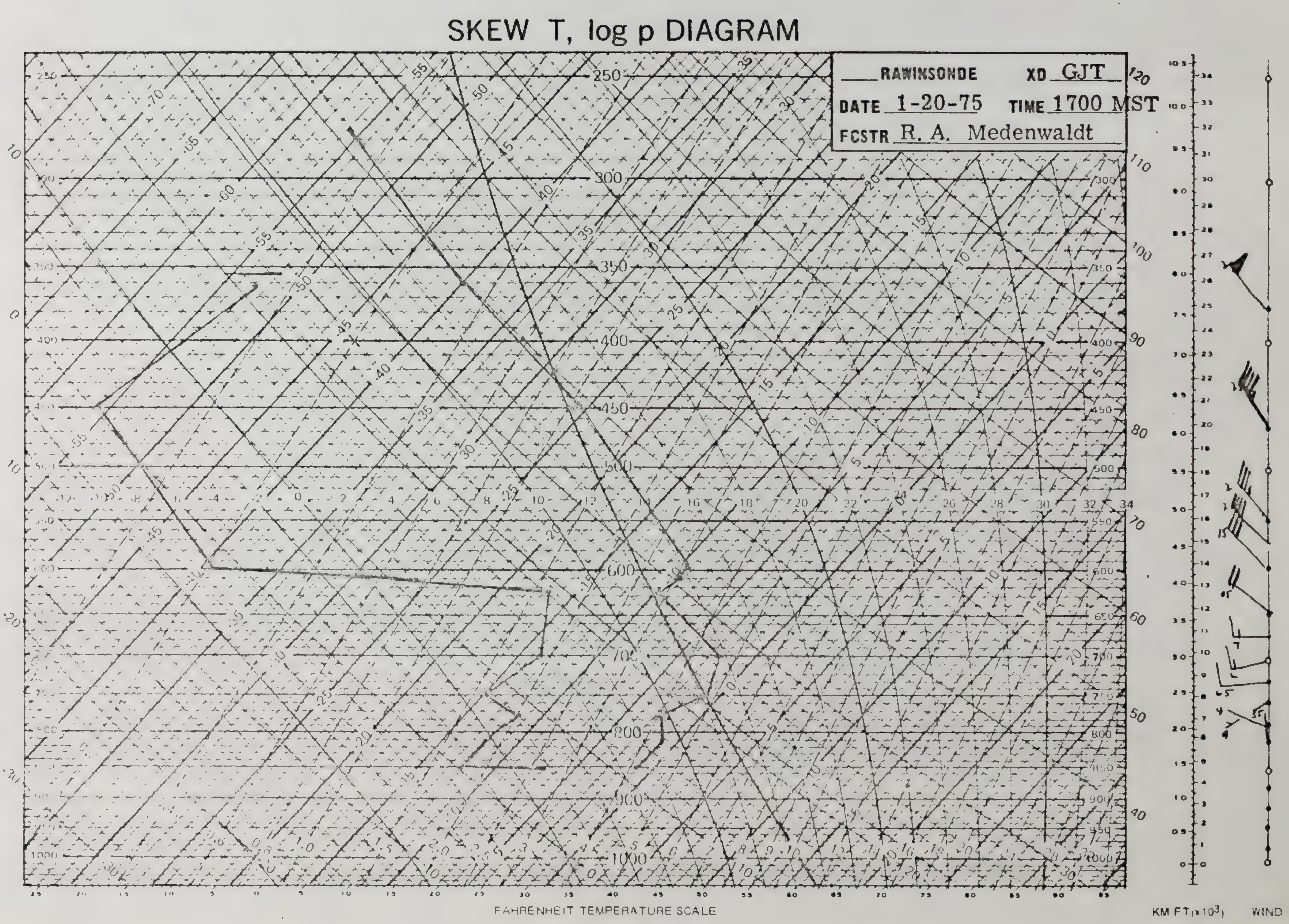


Figure A-2. Radiosonde Sounding Over Grand Junction at 1700 MST on 20 January 1975.

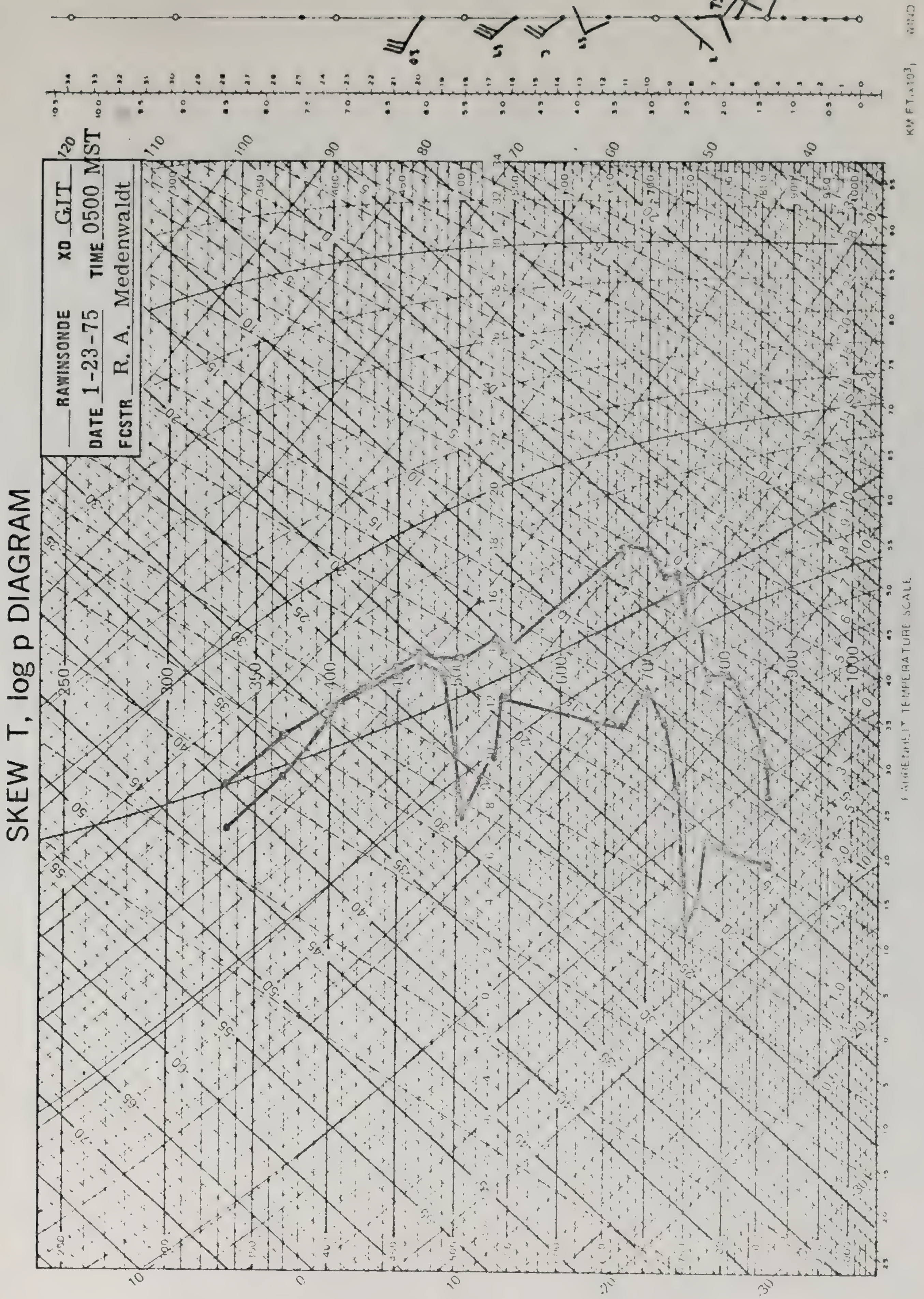


Figure A-3. Radiosonde Sounding Over Grand Junction at 0500 MST on 23 January 1975.

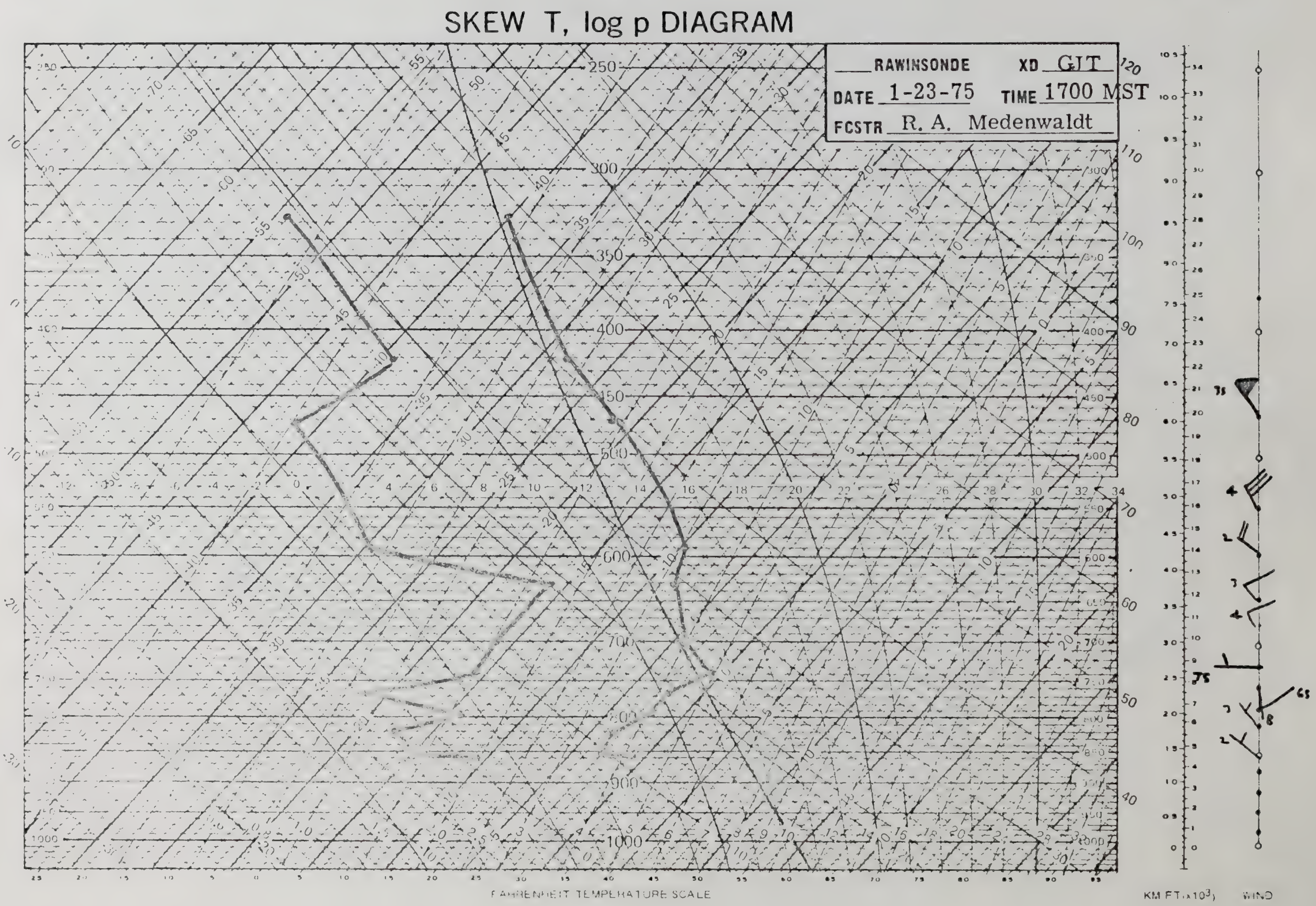
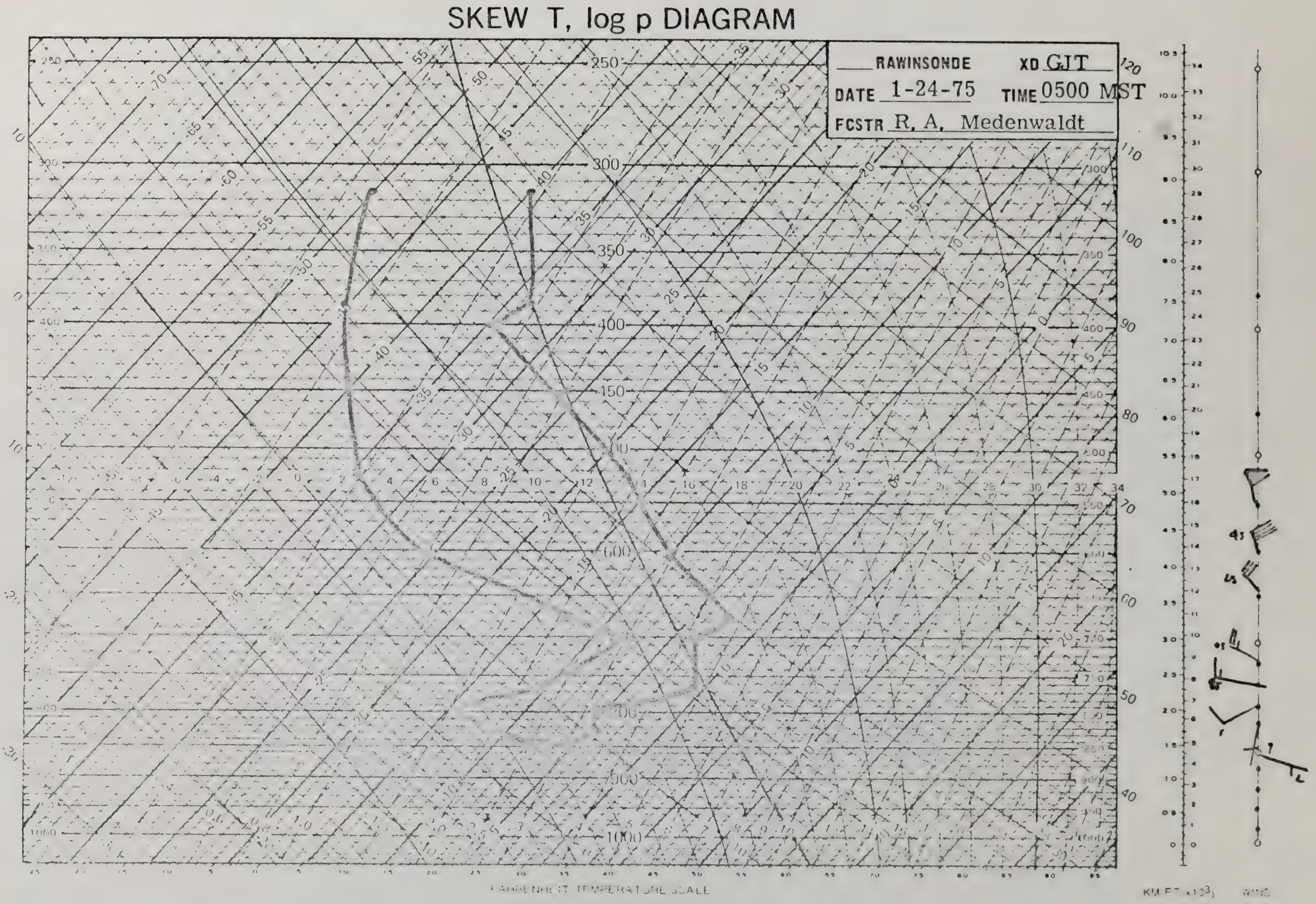
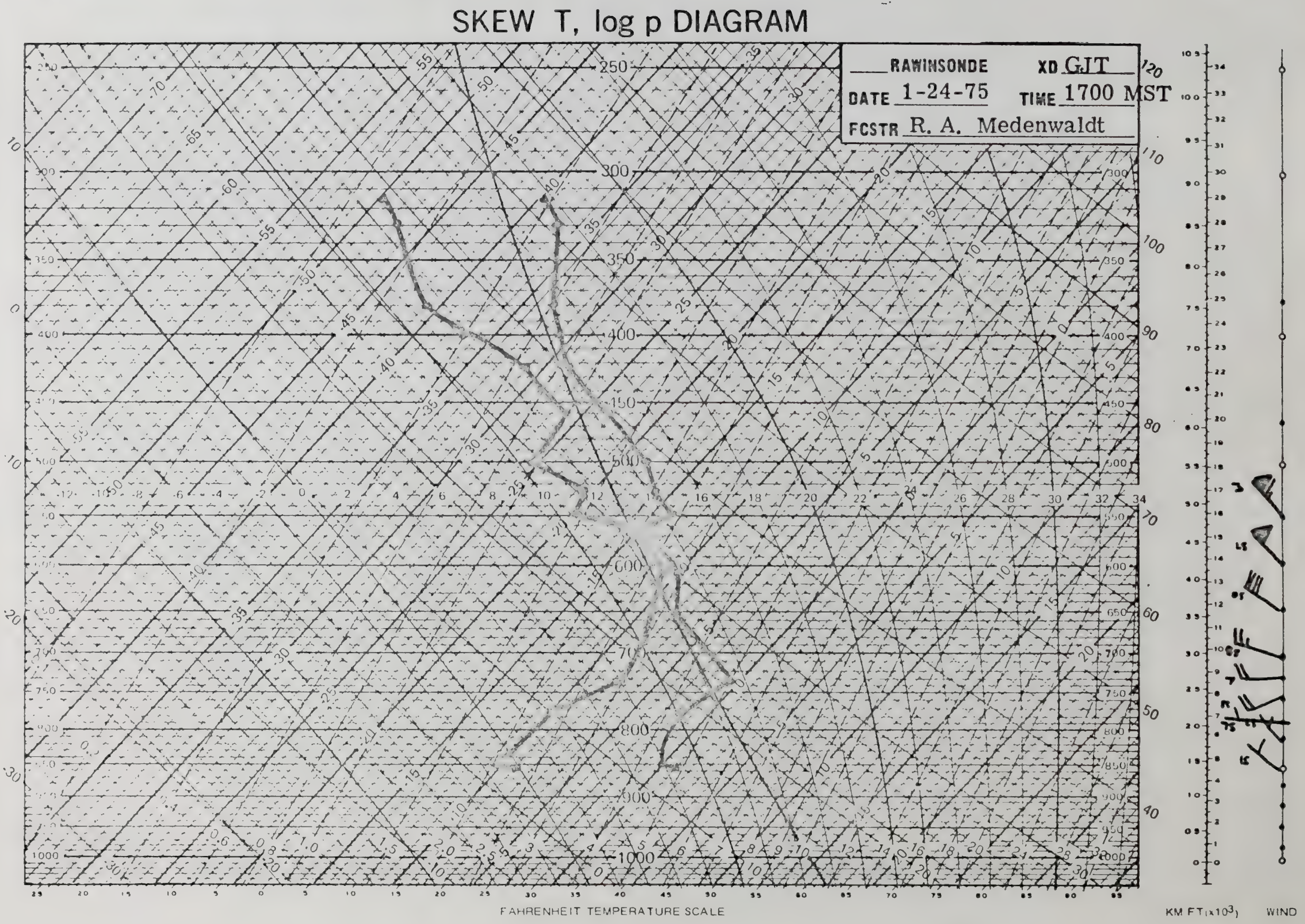


Figure A-4. Radiosonde Sounding Over Grand Junction at 1700 MST on 23 January 1975.



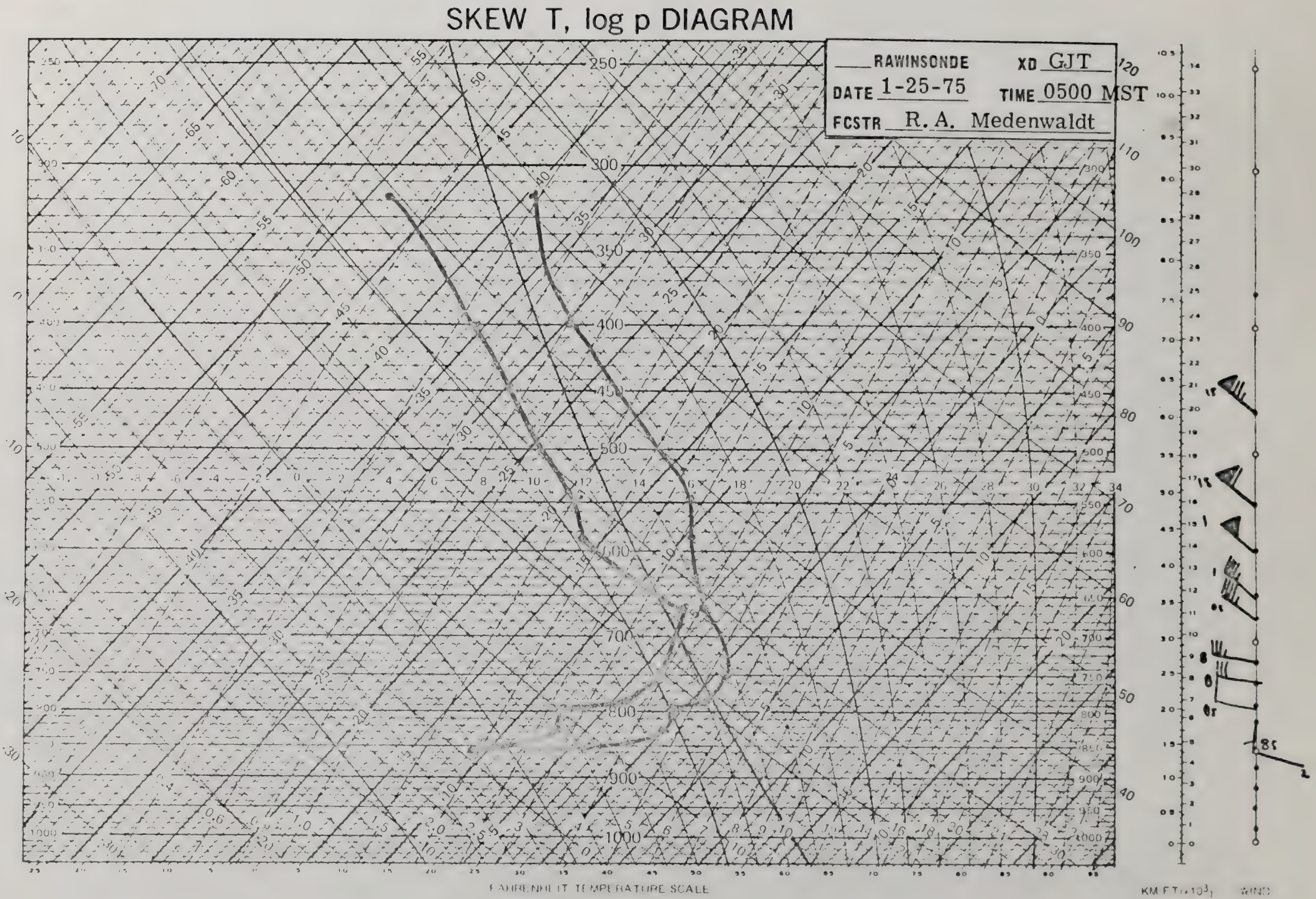
RAWINSONDE XD GJT
DATE 1-24-75 TIME 0500 MST
FCSTR R. A. Medenwaldt

Figure A-5. Radiosonde Sounding Over Grand Junction at 0500 MST on 24 January 1975.



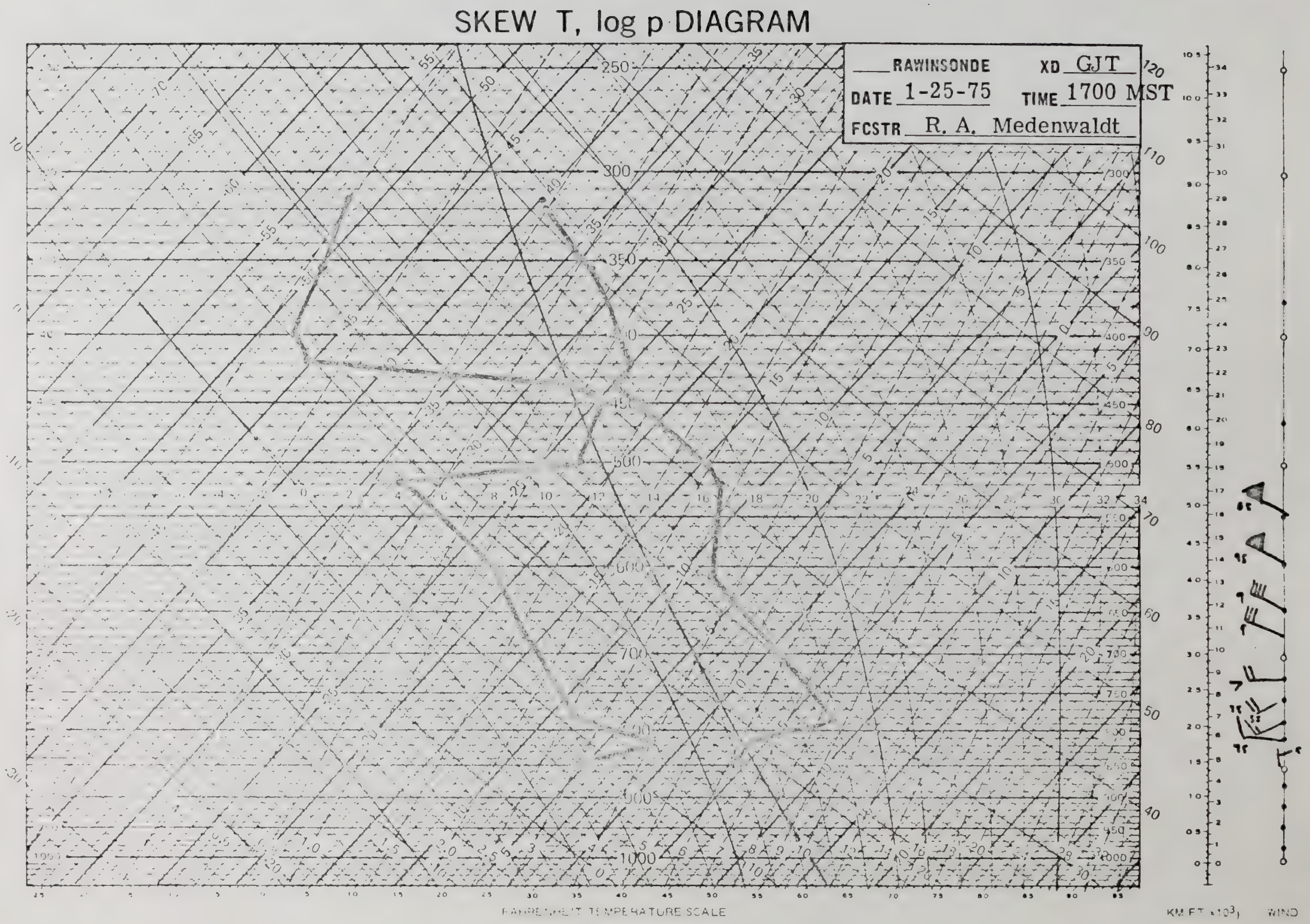
RAWINSONDE XD GJT
DATE 1-24-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-6. Radiosonde Sounding Over Grand Junction at 1700 MST on 24 January 1975.



RAWINSONDE XD GJT
DATE 1-25-75 TIME 0500 MST
FCSTR R. A. Medenwaldt

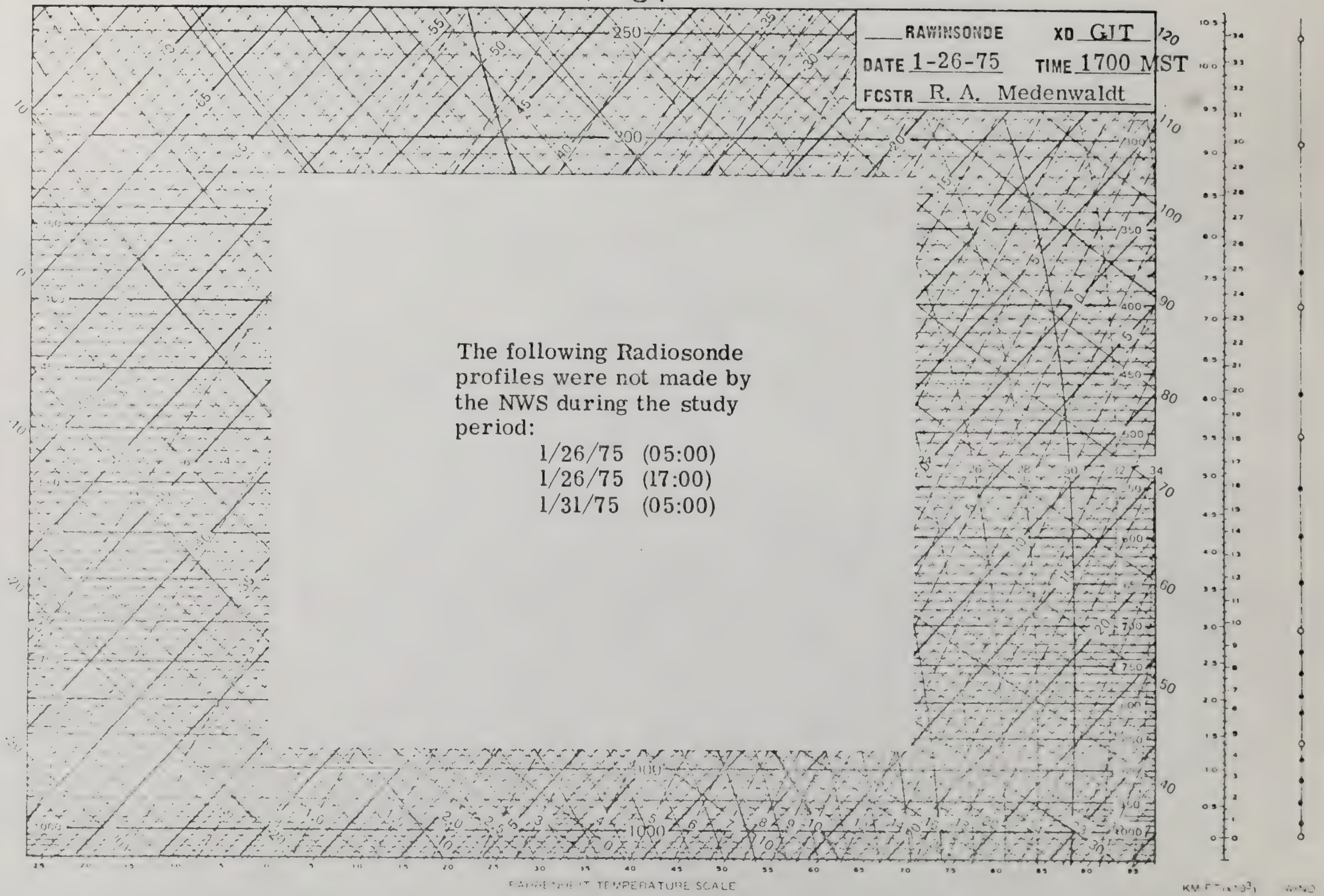
Figure A-7. Radiosonde Sounding Over Grand Junction at 0500 MST on 25 January 1975.



RAWINSONDE XD GJT
DATE 1-25-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-8. Radiosonde Sounding Over Grand Junction at 1700 MST on 25 January 1975.

USAF SKEW T, log p DIAGRAM



____RAWINSONDE XD GJT

DATE 1-26-75 TIME 1700 MST

FCSTR R. A. Medenwaldt

The following Radiosonde profiles were not made by the NWS during the study period:

1/26/75 (05:00)
1/26/75 (17:00)
1/31/75 (05:00)

Figure A-9. Radiosonde Sounding Over Grand Junction at 1700 MST on 26 January 1975.

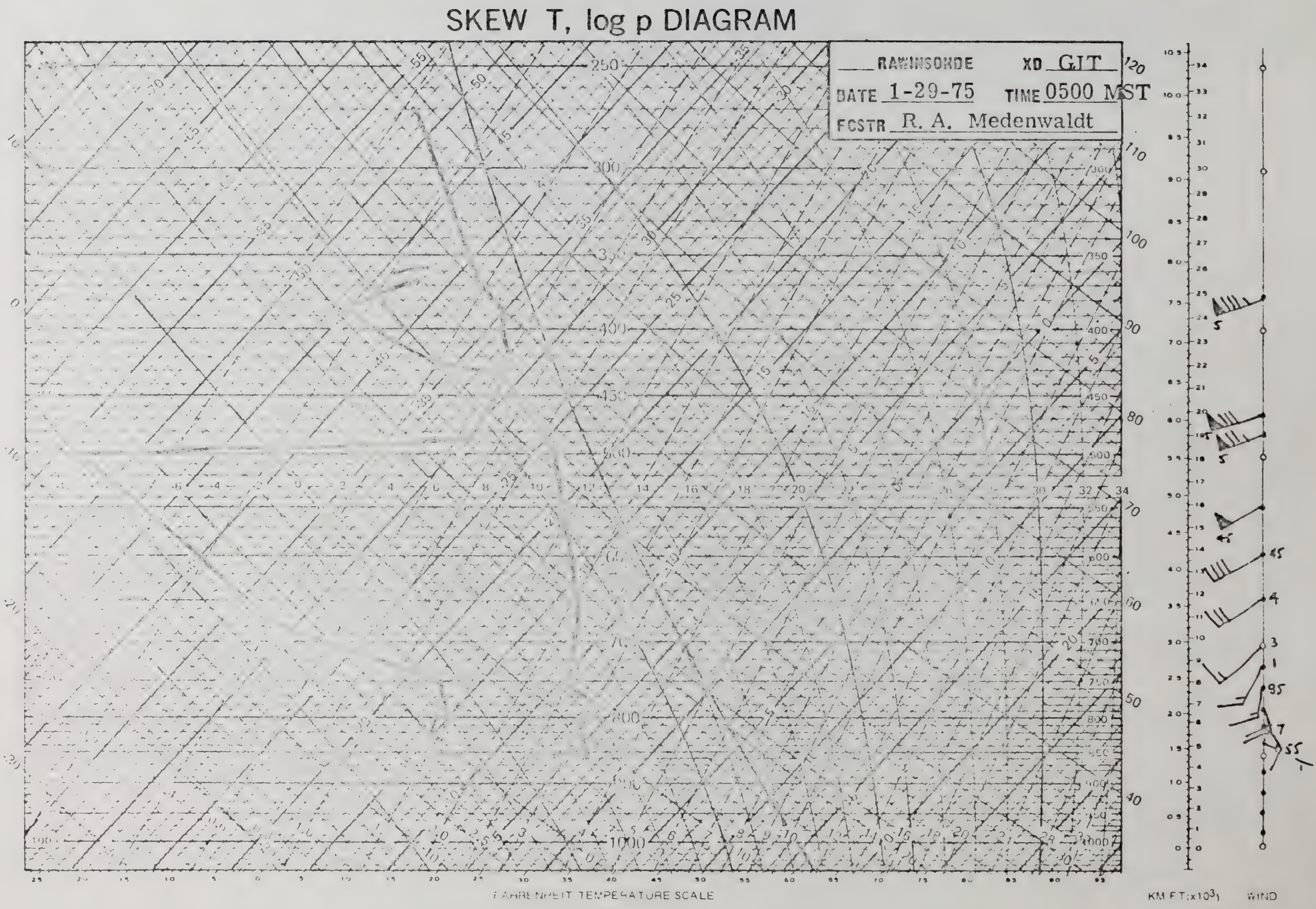
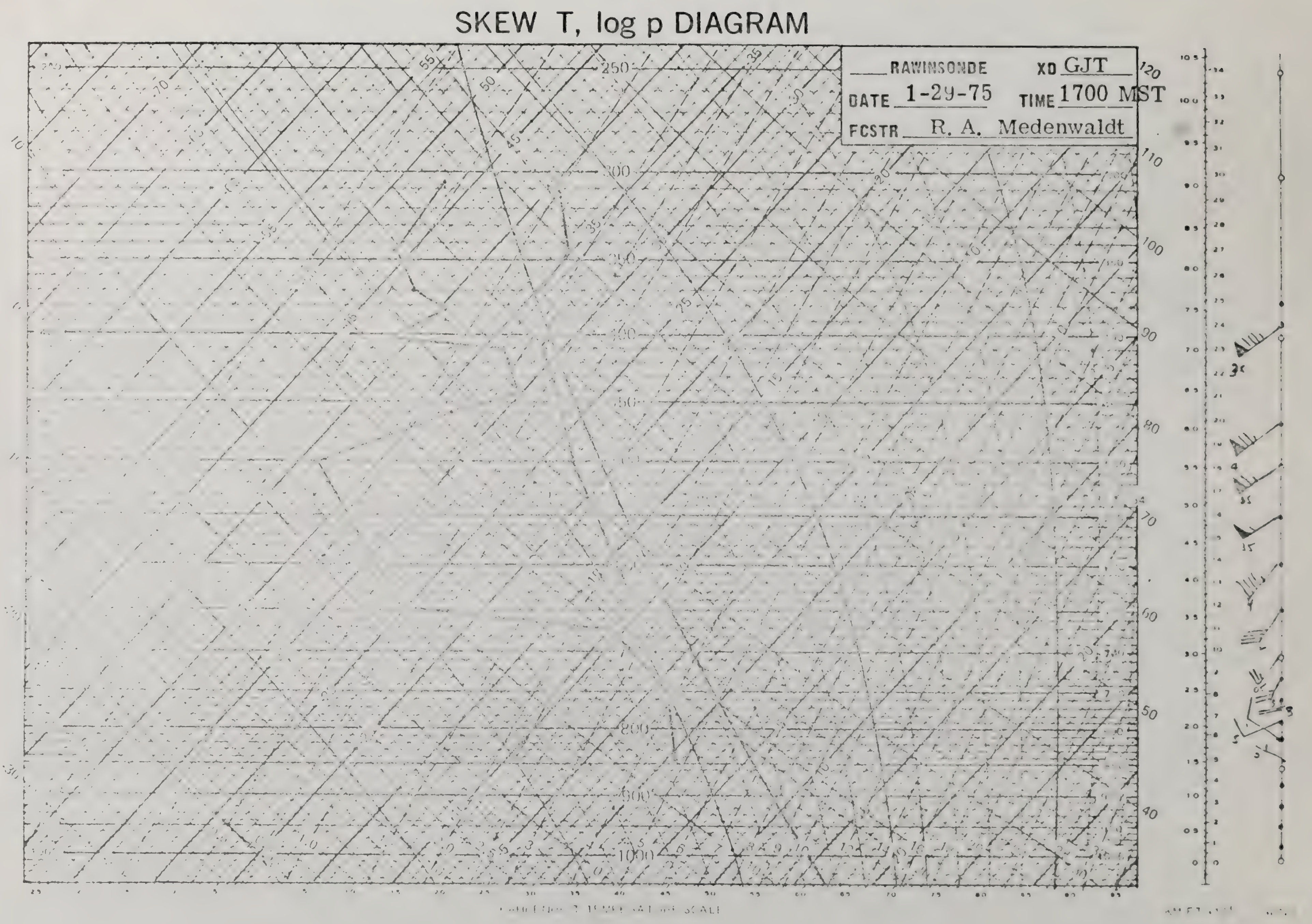


Figure A-10. Radiosonde Sounding Over Grand Junction at 0500 MST on 29 January 1975.



RAWINSONDE XD GJT
DATE 1-29-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-11. Radiosonde Sounding Over Grand Junction at 1700 MST on 29 January 1975.

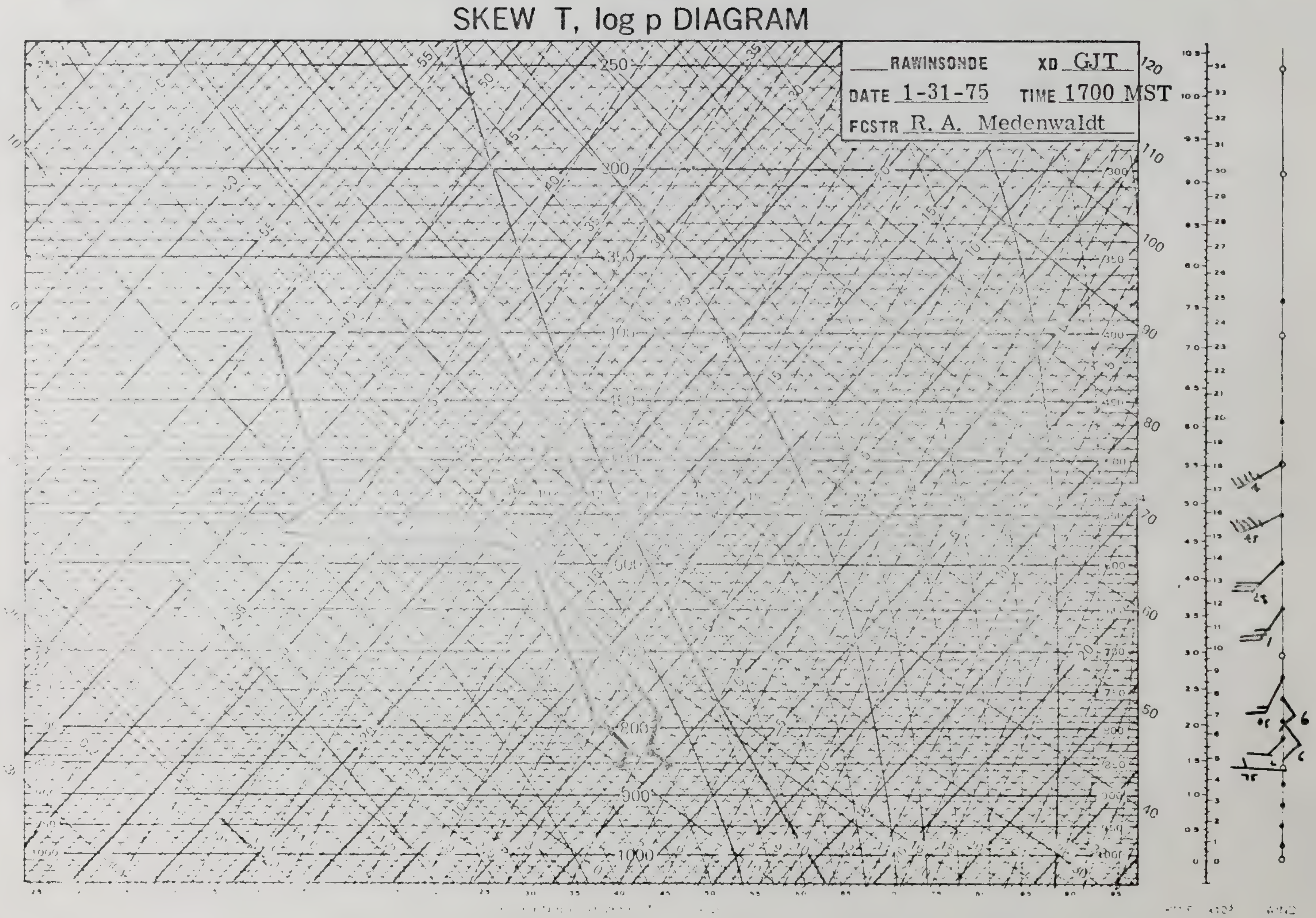
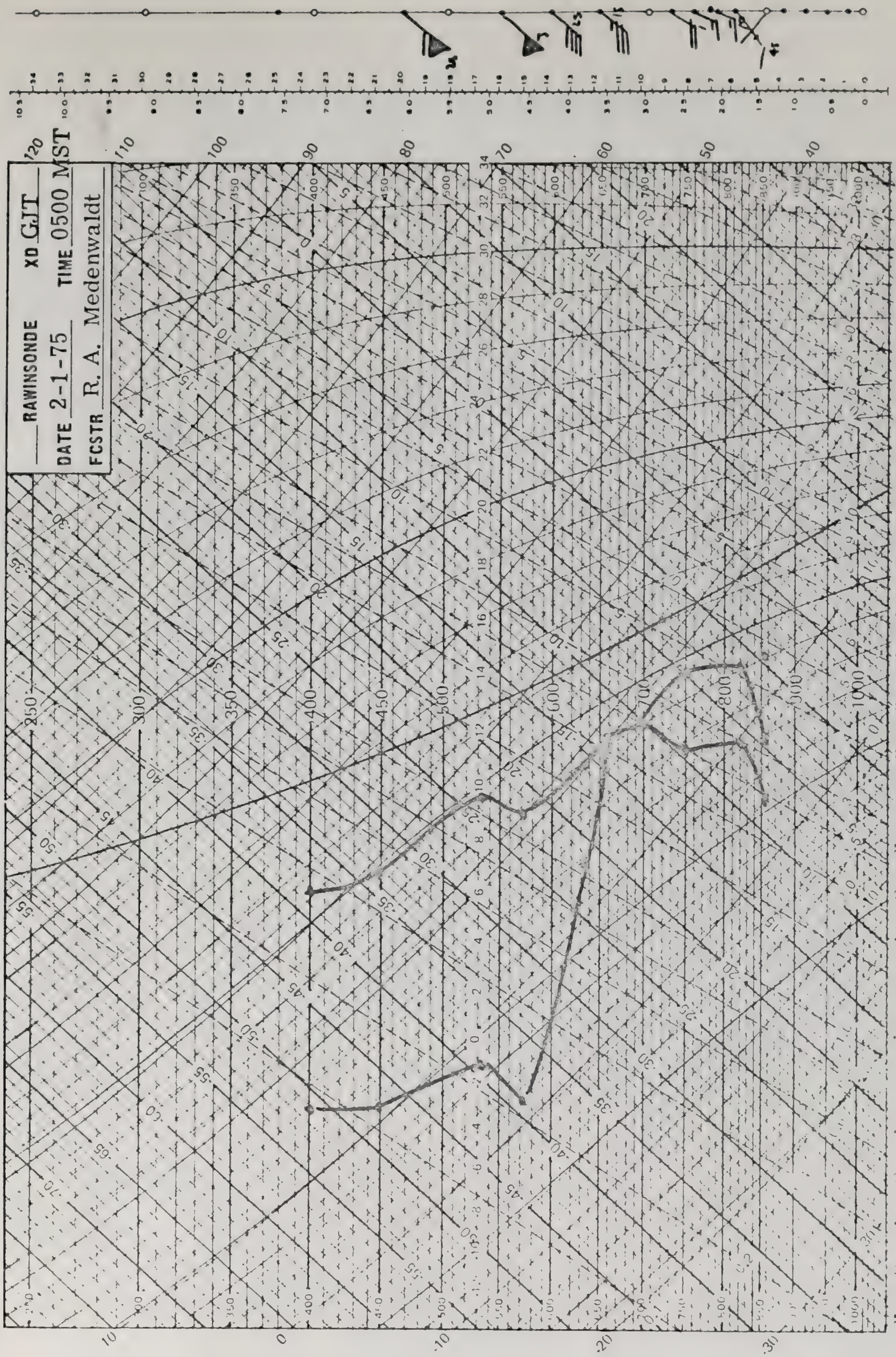
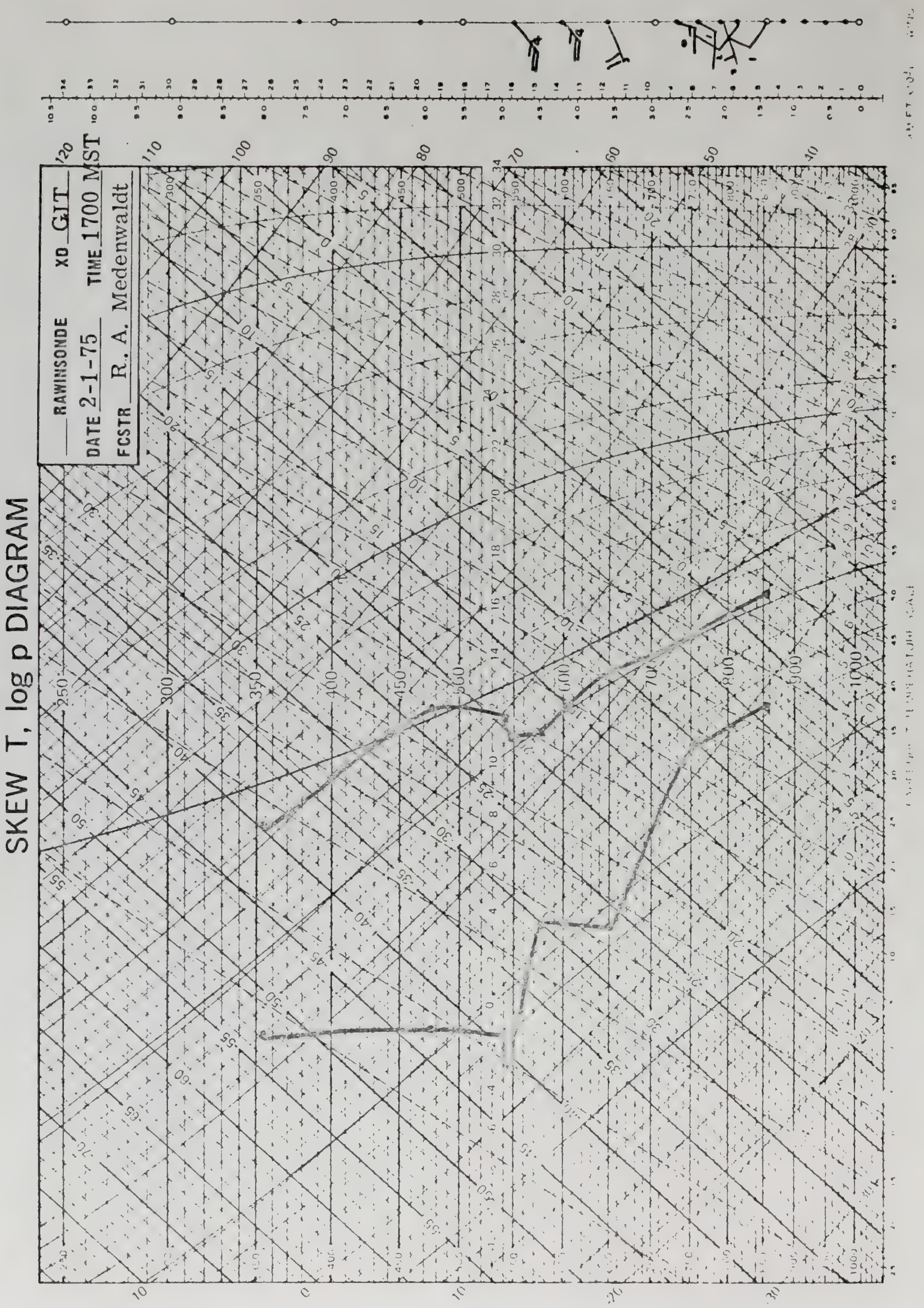


Figure A-12. Radiosonde Sounding Over Grand Junction at 1700 MST on 31 January 1975.



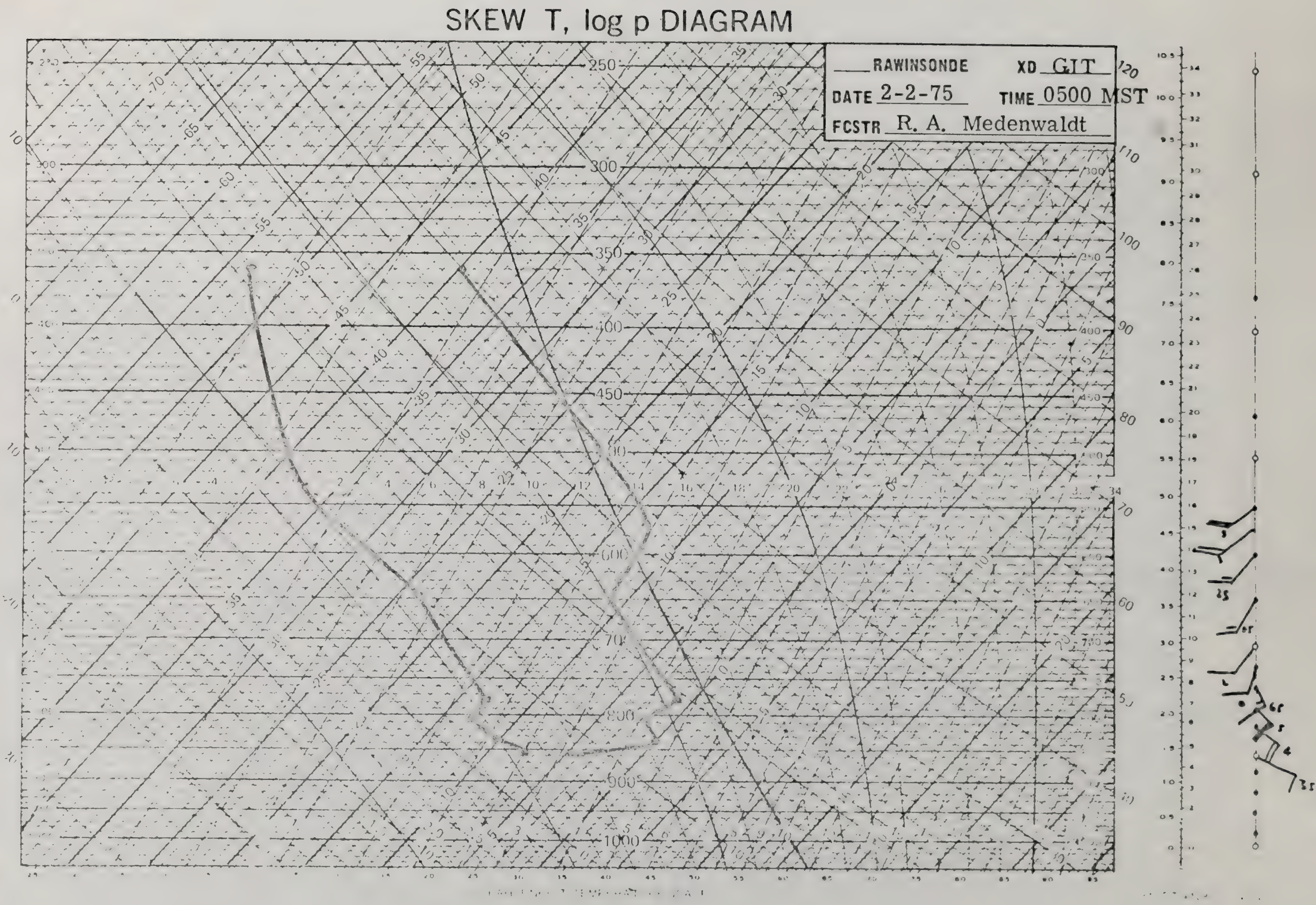
RAWINSONDE
XD GJT
DATE 2-1-75
TIME 0500 MST
FCSTR R. A. Medenwaldt

Figure A-13. Radiosonde Sounding Over Grand Junction at 0500 MST on 1 February 1975.



RAWINSONDE XD GIT
DATE 2-1-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-14. Radiosonde Sounding Over Grand Junction at 1700 MST on 1 February 1975.

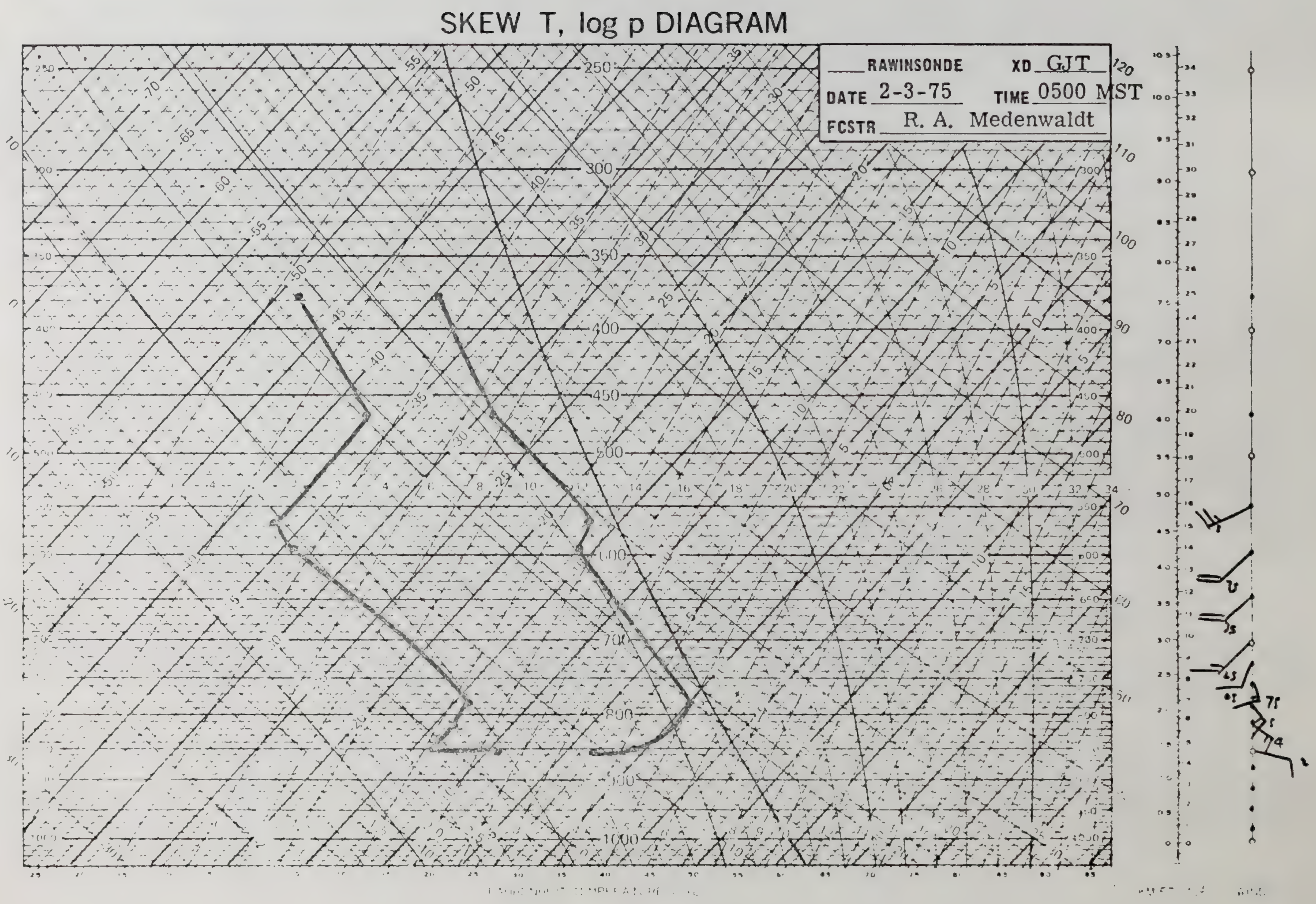


___ RAWINSONDE XD GJT

DATE 2-2-75 TIME 0500 MST

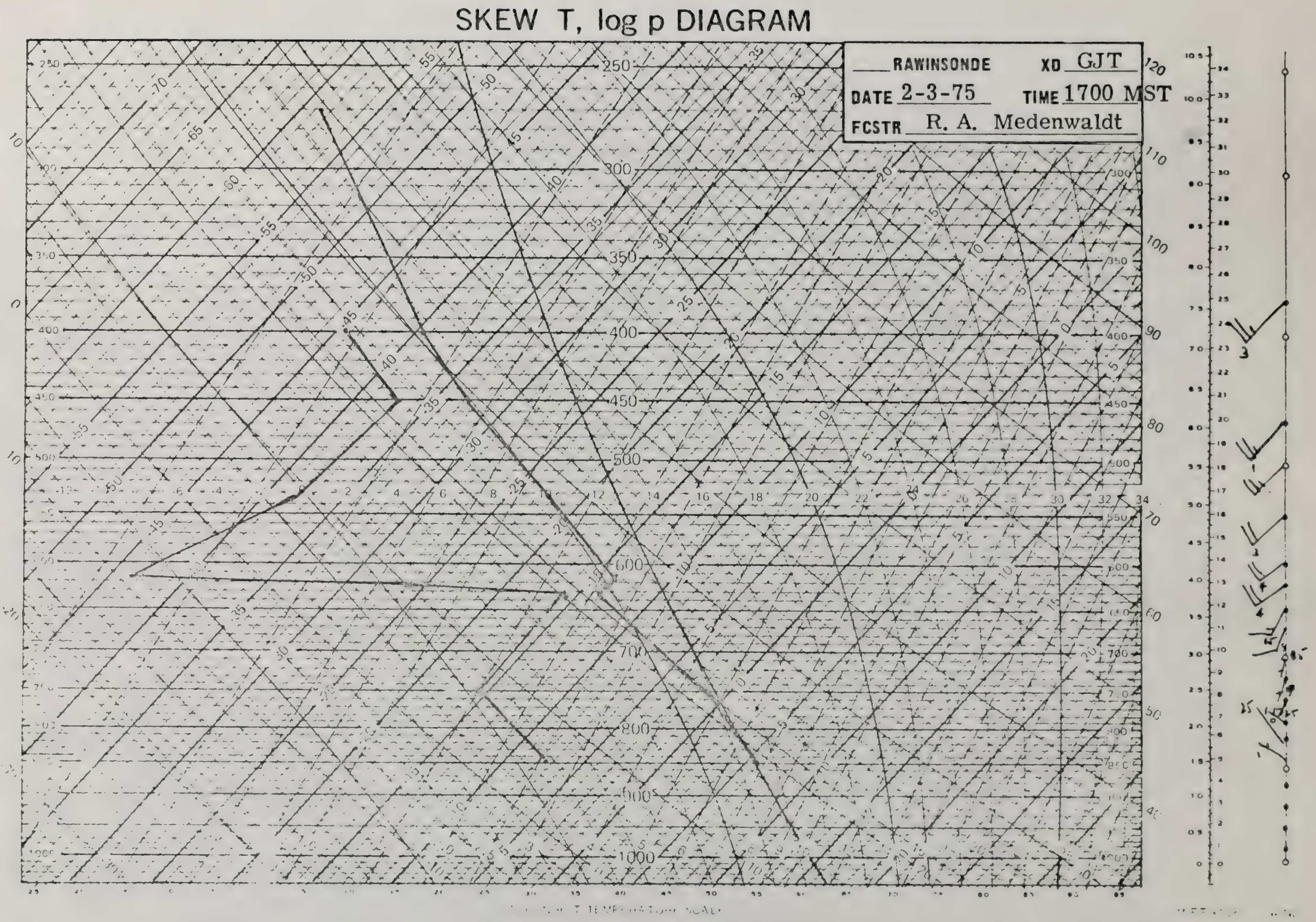
FCSTR R. A. Medenwaldt

Figure A-15. Radiosonde Sounding Over Grand Junction at 0500 MST on 2 February 1975.



RAWINSONDE XD GJT
DATE 2-3-75 TIME 0500 MST
FCSTR R. A. Medenwaldt

Figure A-17. Radiosonde Sounding Cver Grand Junction at 0500 MST on 3 February 1975.



RAWINSONDE XD GJT
DATE 2-3-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-18. Radiosonde Sounding Over Grand Junction at 1700 MST on 3 February 1975.

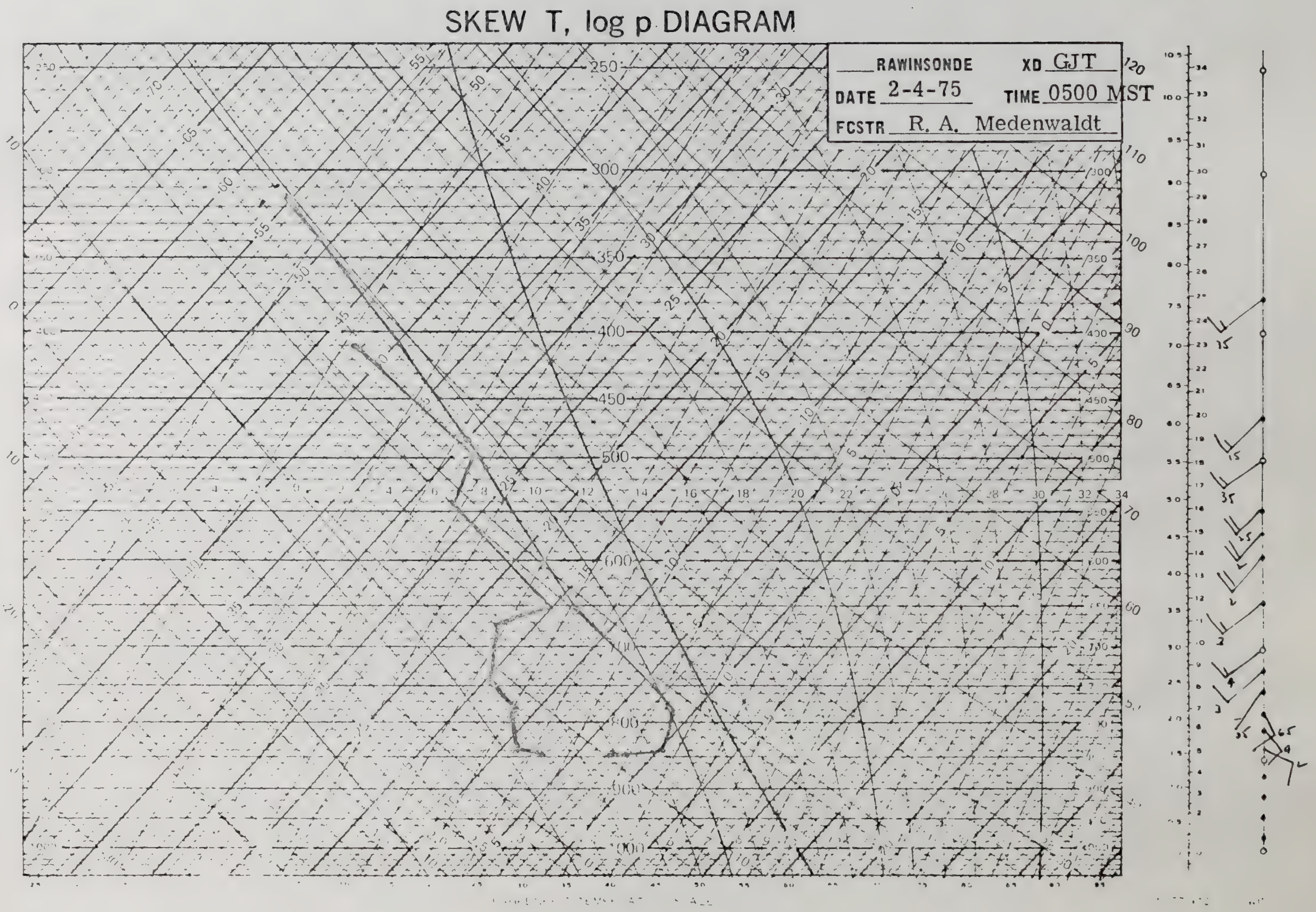
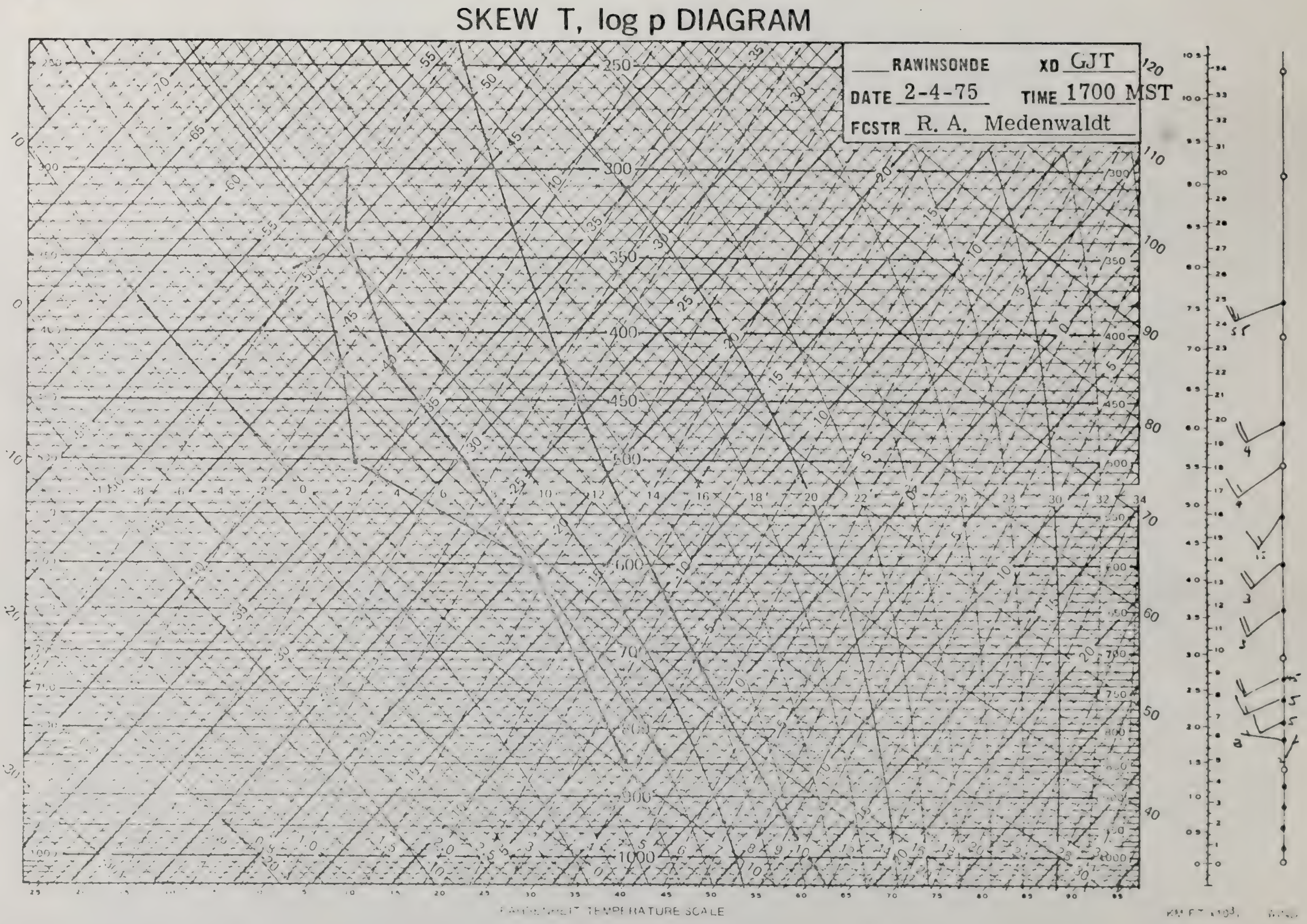


Figure A-19. Radiosonde Sounding Over Grand Junction at 0500 MST on 4 February 1975.



____ RAWINSONDE XD GJT
DATE 2-4-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-20. Radiosonde Sounding Over Grand Junction at 1700 MST on 4 February 1975.

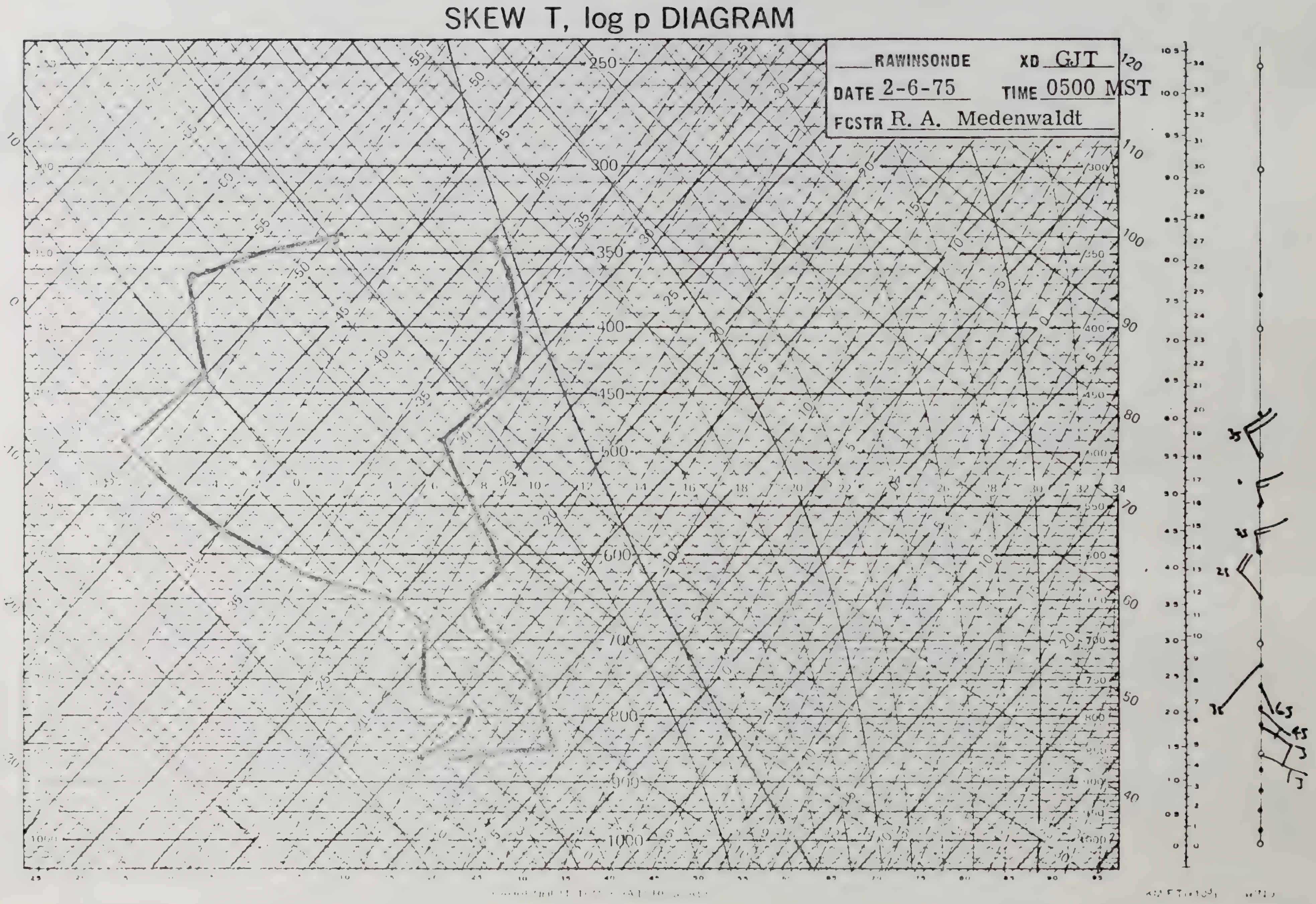
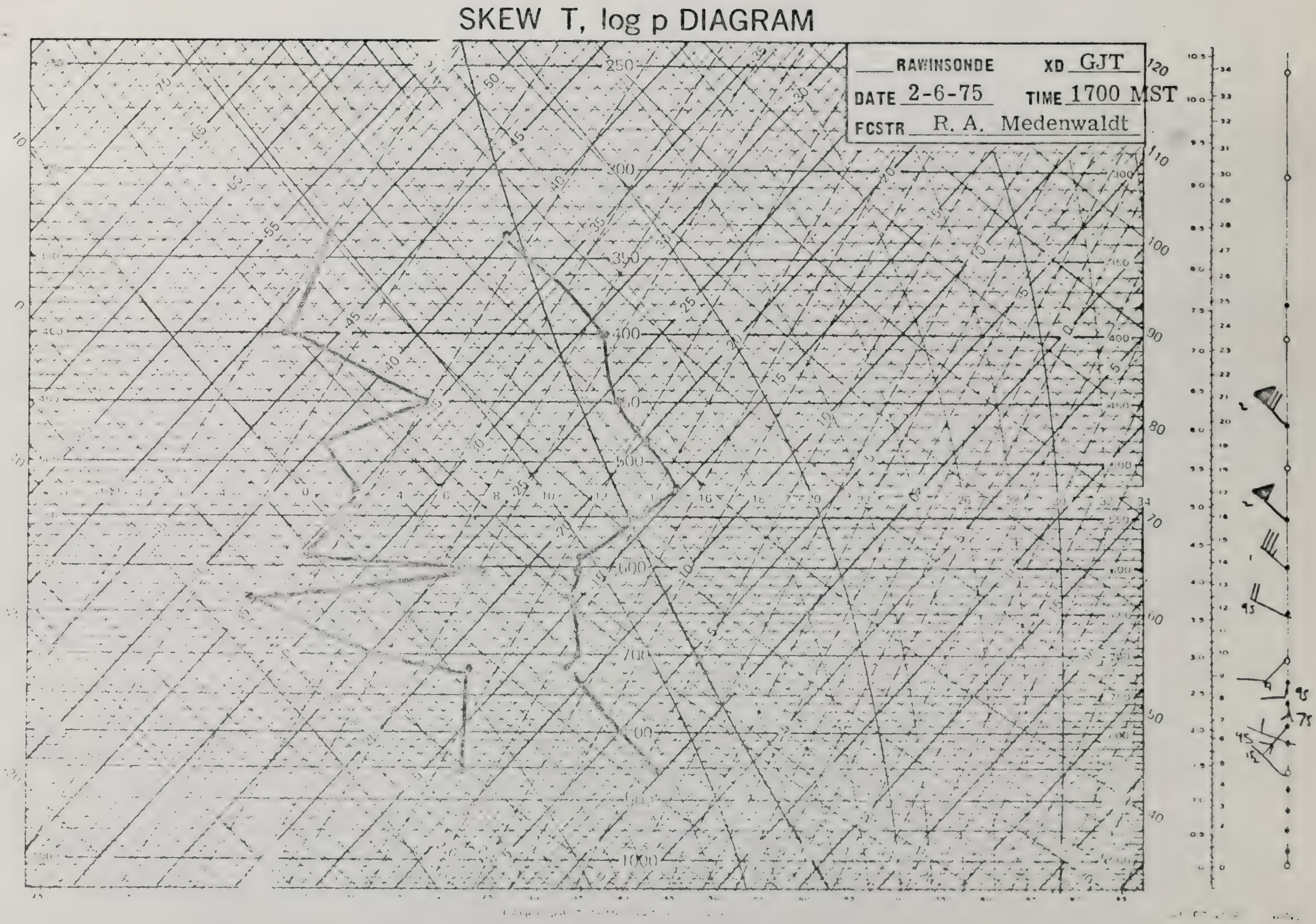
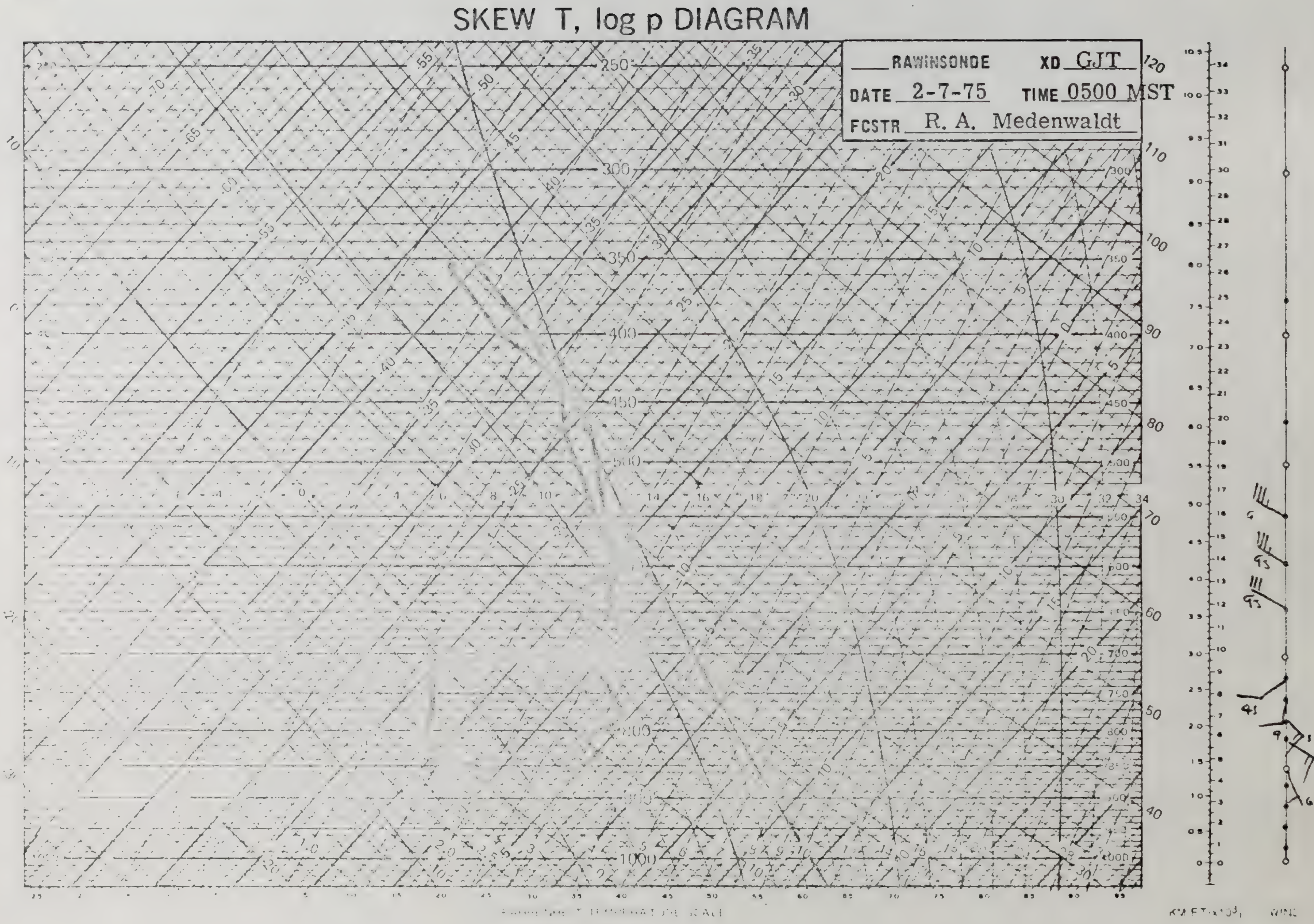


Figure A-21. Radiosonde Sounding Over Grand Junction at 0500 MST on 6 February 1975.



RAWINSONDE XD GJT
DATE 2-6-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-22. Radiosonde Sounding Over Grand Junction at 1700 MST on 6 February 1975.

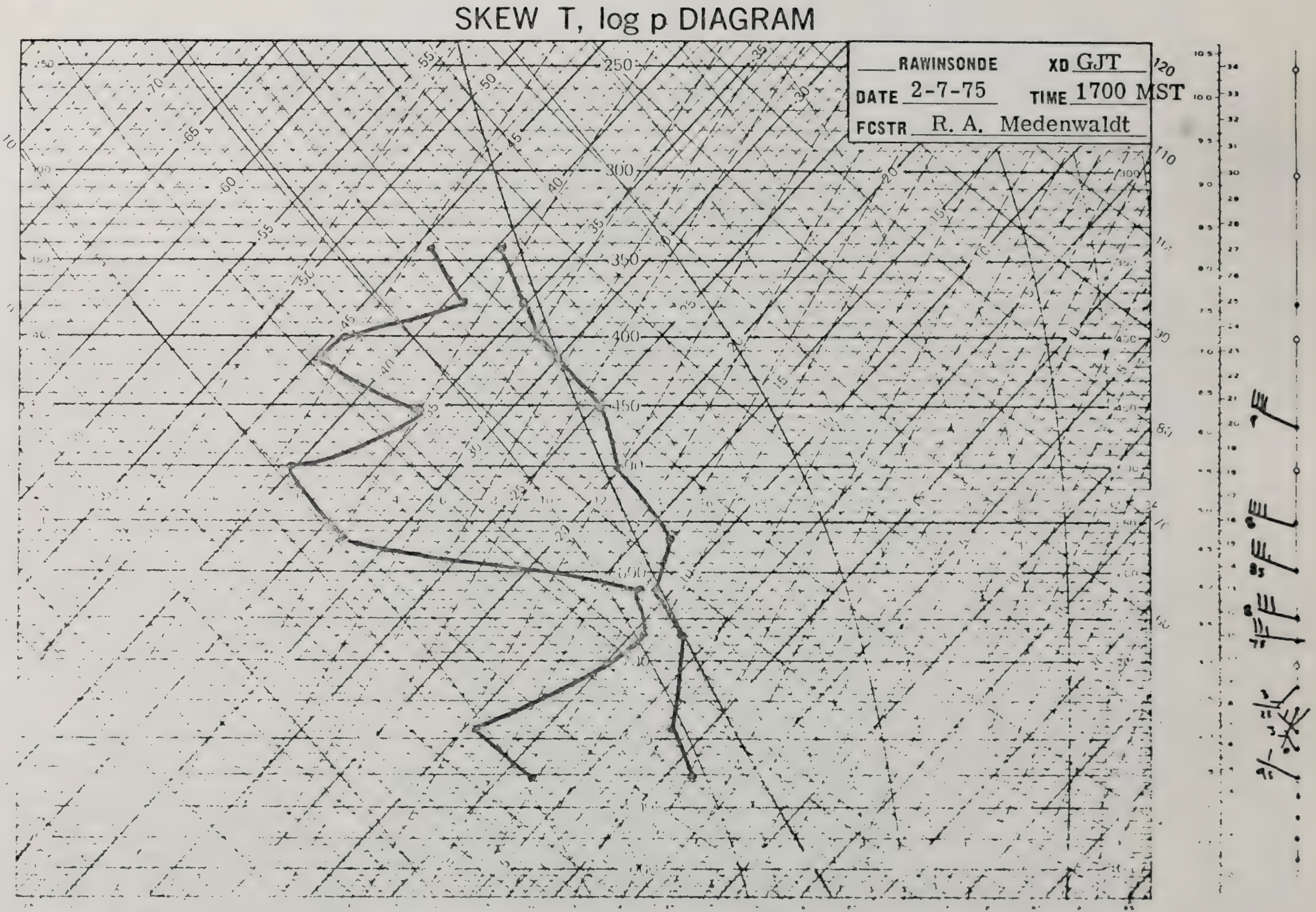


___RAWINSONDE XD GJT

DATE 2-7-75 TIME 0500 MST

FCSTR R. A. Medenwaldt

Figure A-23. Radiosonde Sounding Over Grand Junction at 0500 MST on 7 February 1975.



___RAWINSONDE XD GJT
DATE 2-7-75 TIME 1700 MST
FCSTR R. A. Medenwaldt

Figure A-24. Radiosonde Sounding Over Grand Junction at 1700 MST on 7 February 1975.

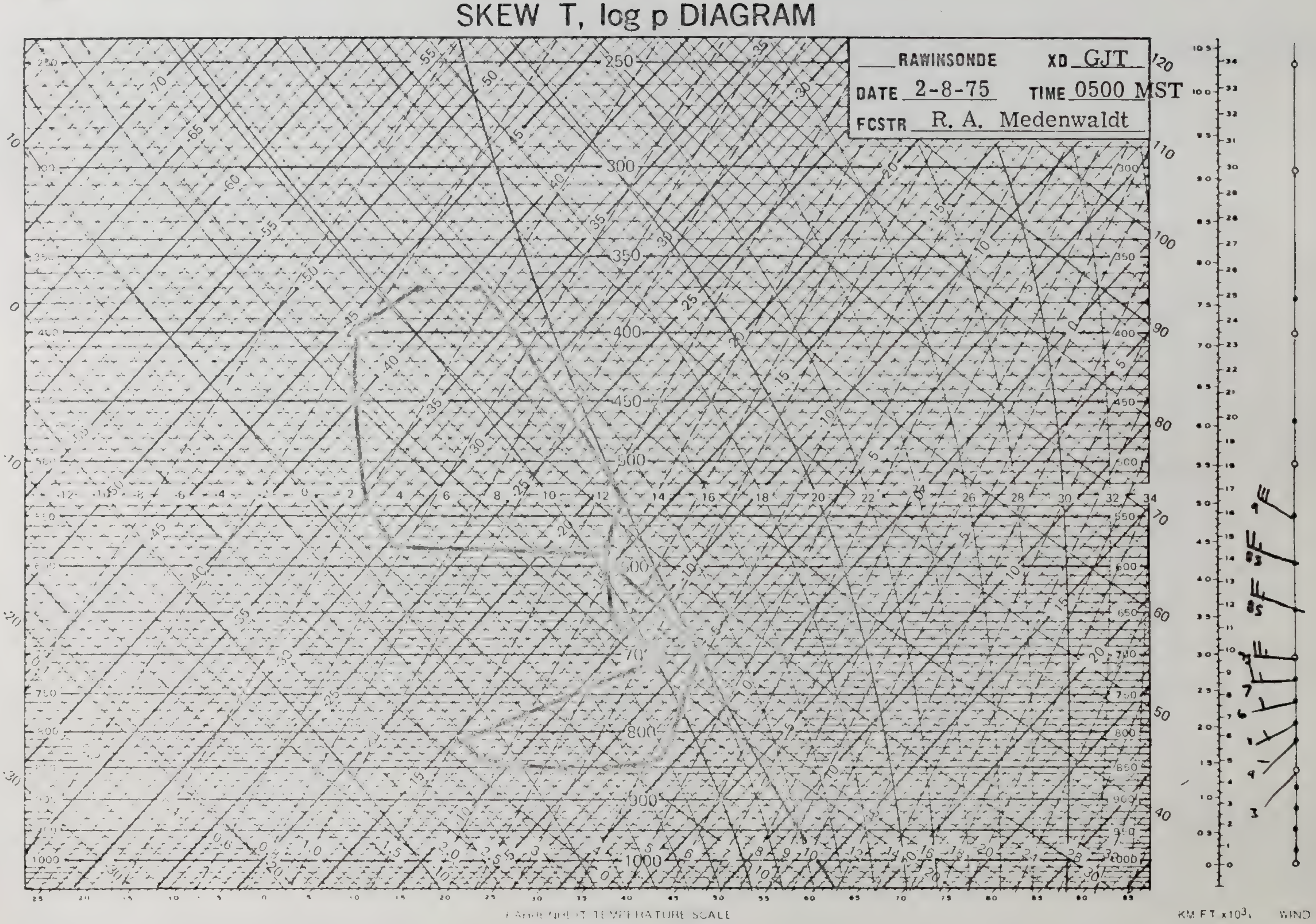
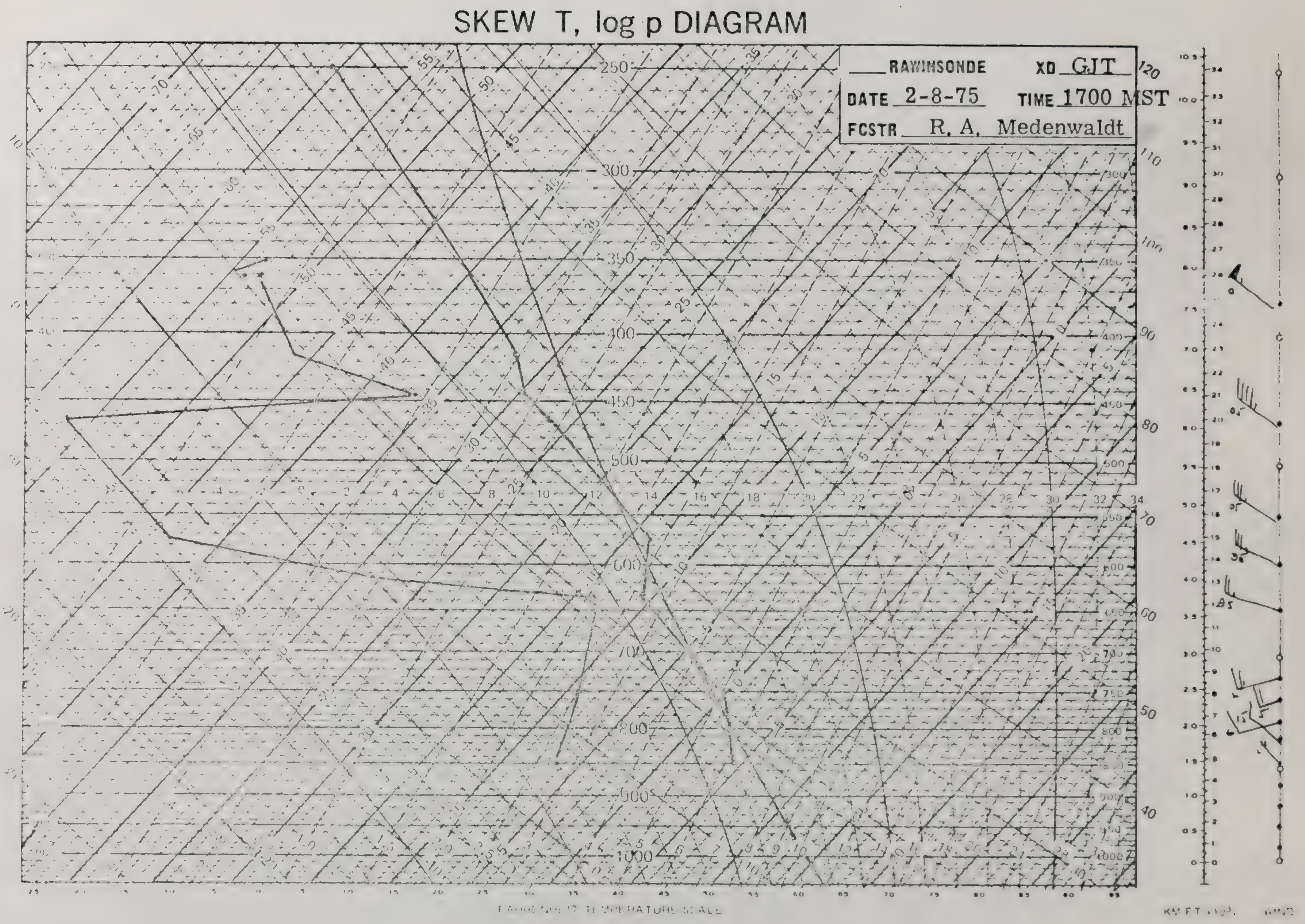


Figure A-25. Radiosonde Sounding Over Grand Junction at 0500 MST on 8 February 1975.



___RAWINSONDE XD GJT

DATE 2-8-75 TIME 1700 MST

FCSTR R. A. Medenwaldt

Figure A-26. Radiosonde Sounding Over Grand Junction at 1700 MST on 8 February 1975.

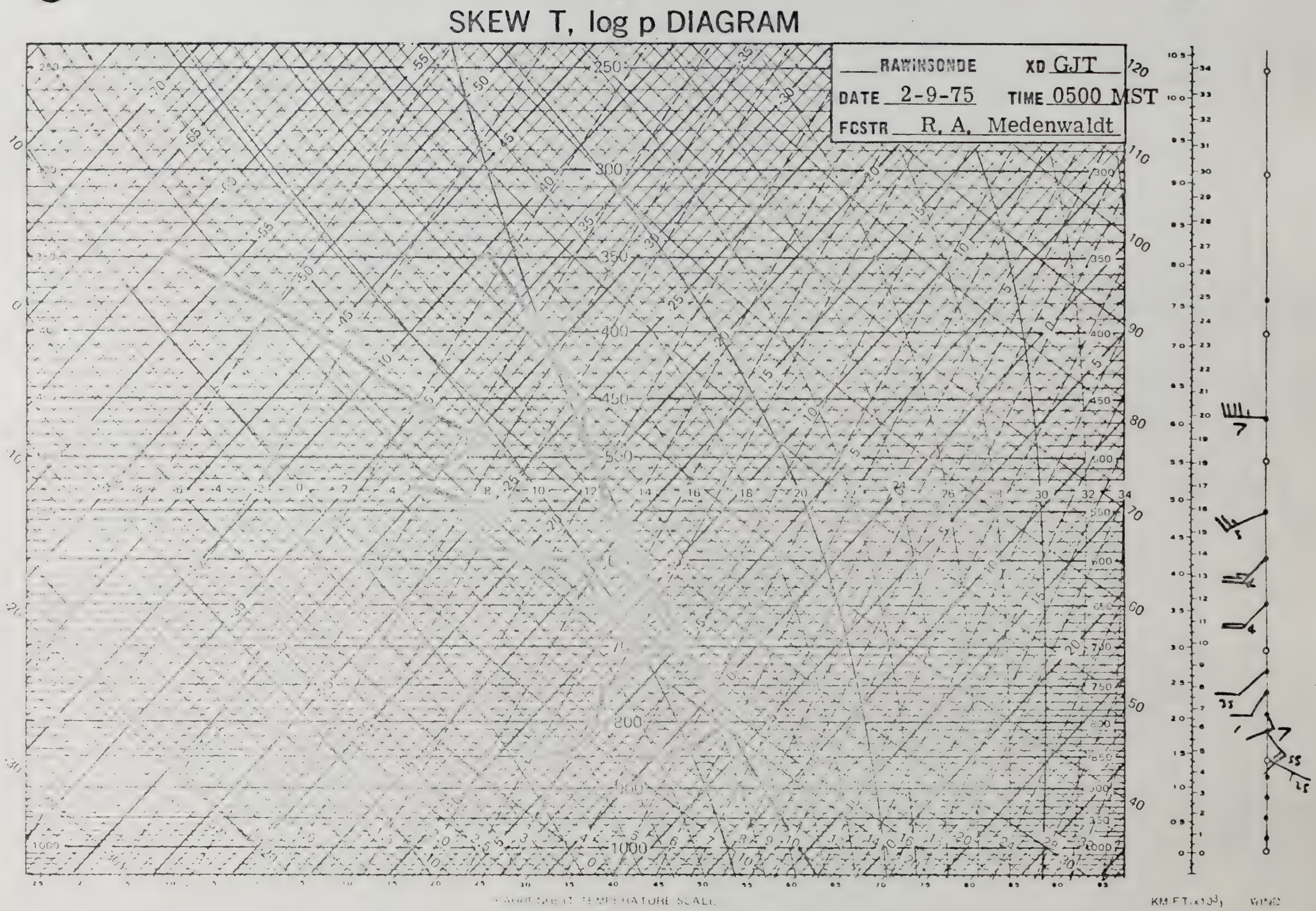


Figure A-27. Radiosonde Sounding Over Grand Junction at 0500 MST on 9 February 1975.

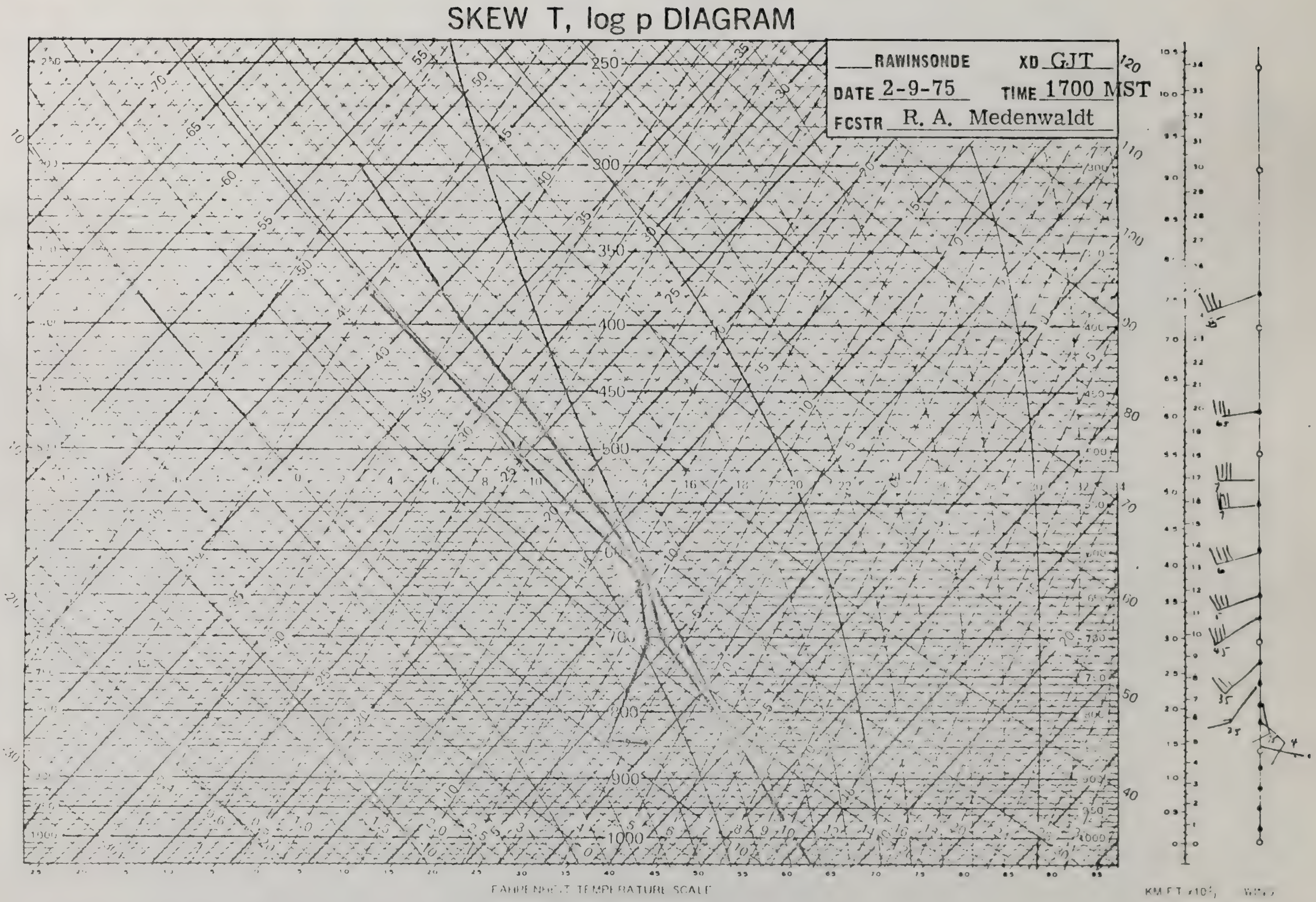


Figure A-28. Radiosonde Sounding Over Grand Junction at 1700 MST on 9 February 1975.

APPENDIX B

Upper Air Temperature Sounding Comparisons between Federal Oil Shale Tracts C-a and C-b During 20 January through 9 February 1975

In all soundings presented in this appendix, the following point symbology is adhered to:

△	Flight Number 1	nominally	0500 MST
□	Flight Number 2	nominally	0800 MST
⬡	Flight Number 3	nominally	1100 MST
◇	Flight Number 4	nominally	1700 MST

The ordinate of the graphs is the altimeter determined elevation above MSL (feet).

The abscissa of the graphs is the ambient air temperature (°C).

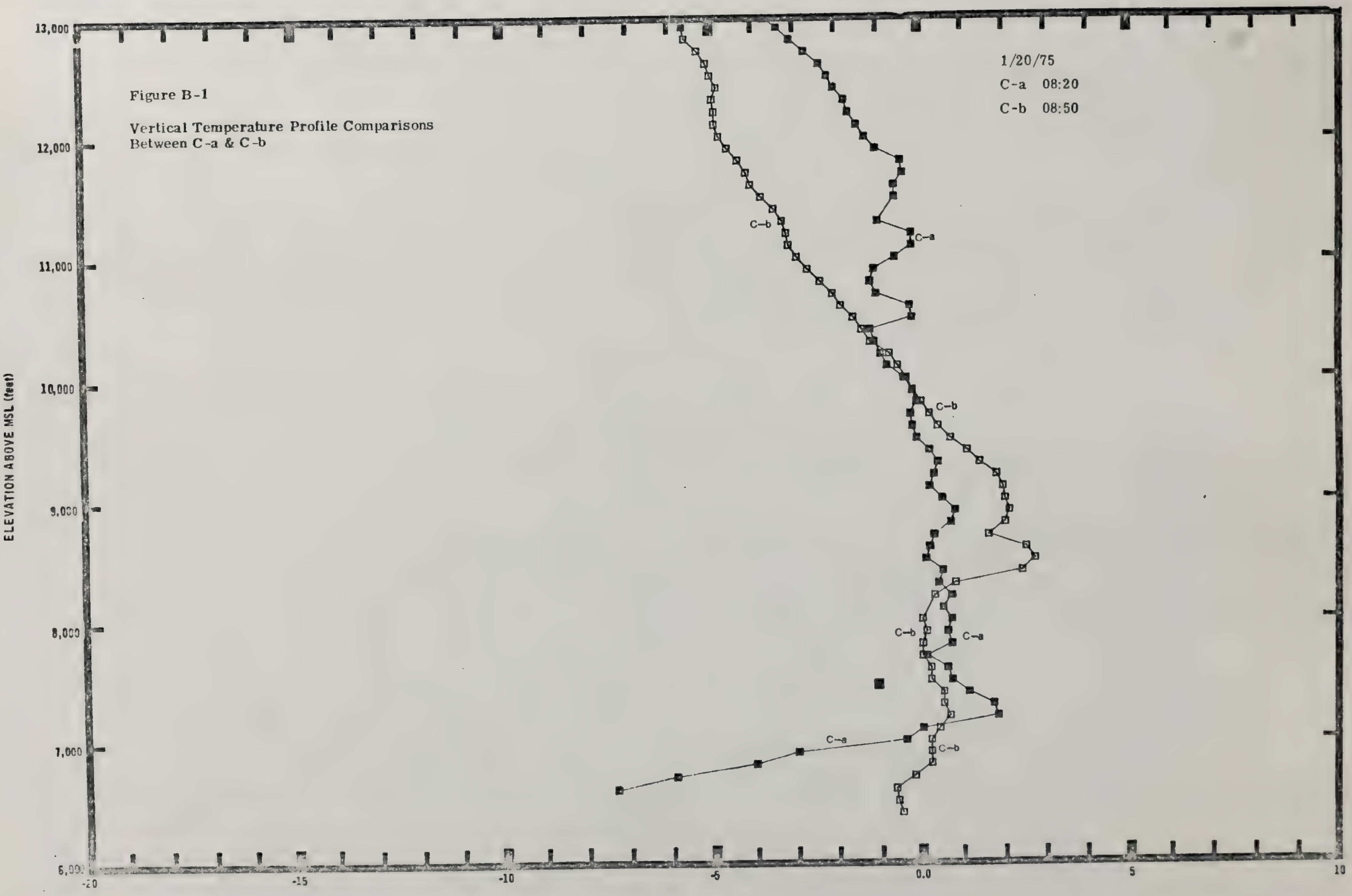


Figure B-1

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/20/75
C-a 08:20
C-b 08:50

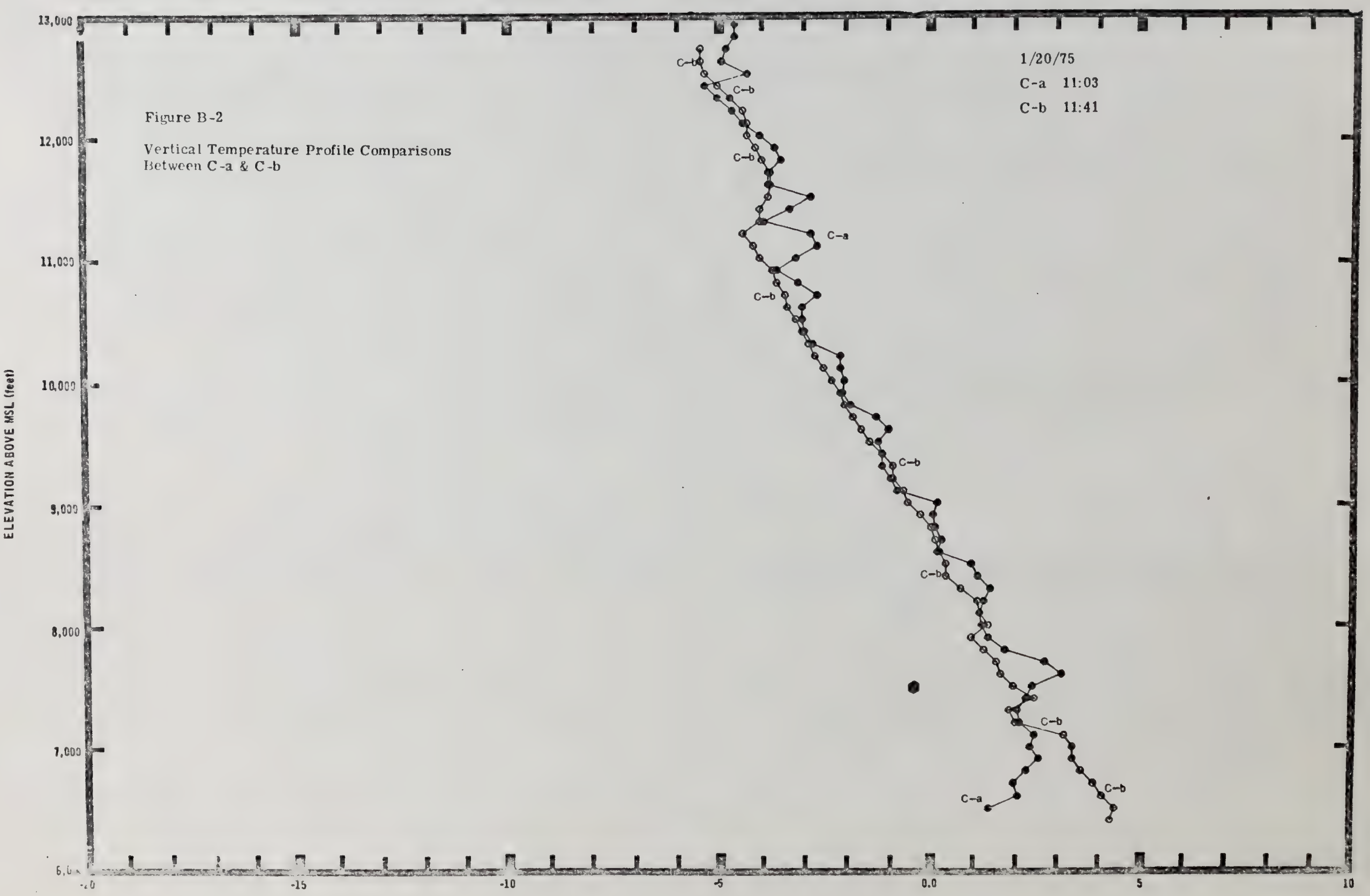


Figure B-2

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/20/75
C-a 11:03
C-b 11:41

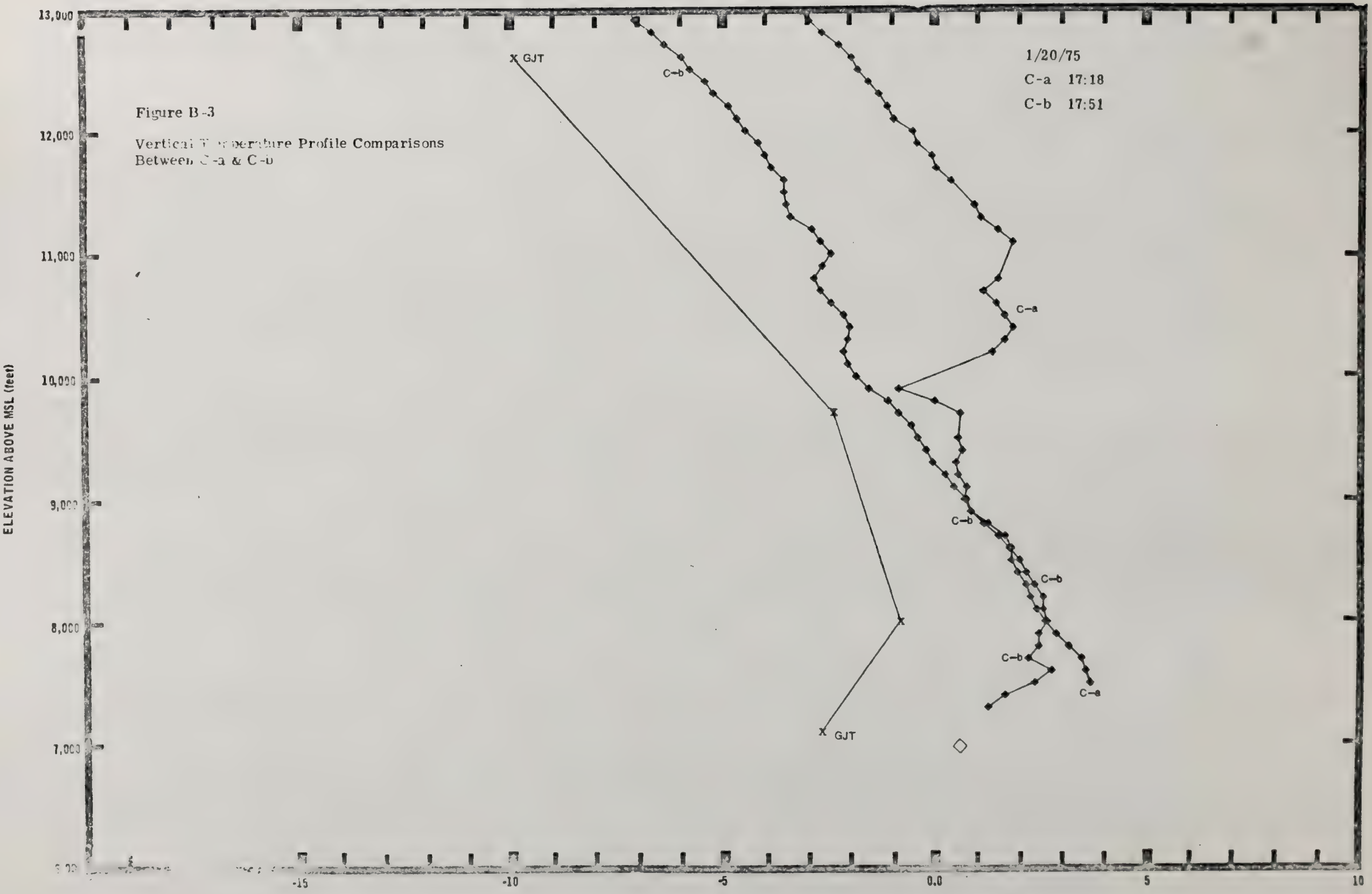


Figure B-3

Vertical Temperature Profile Comparisons Between C-a & C-b

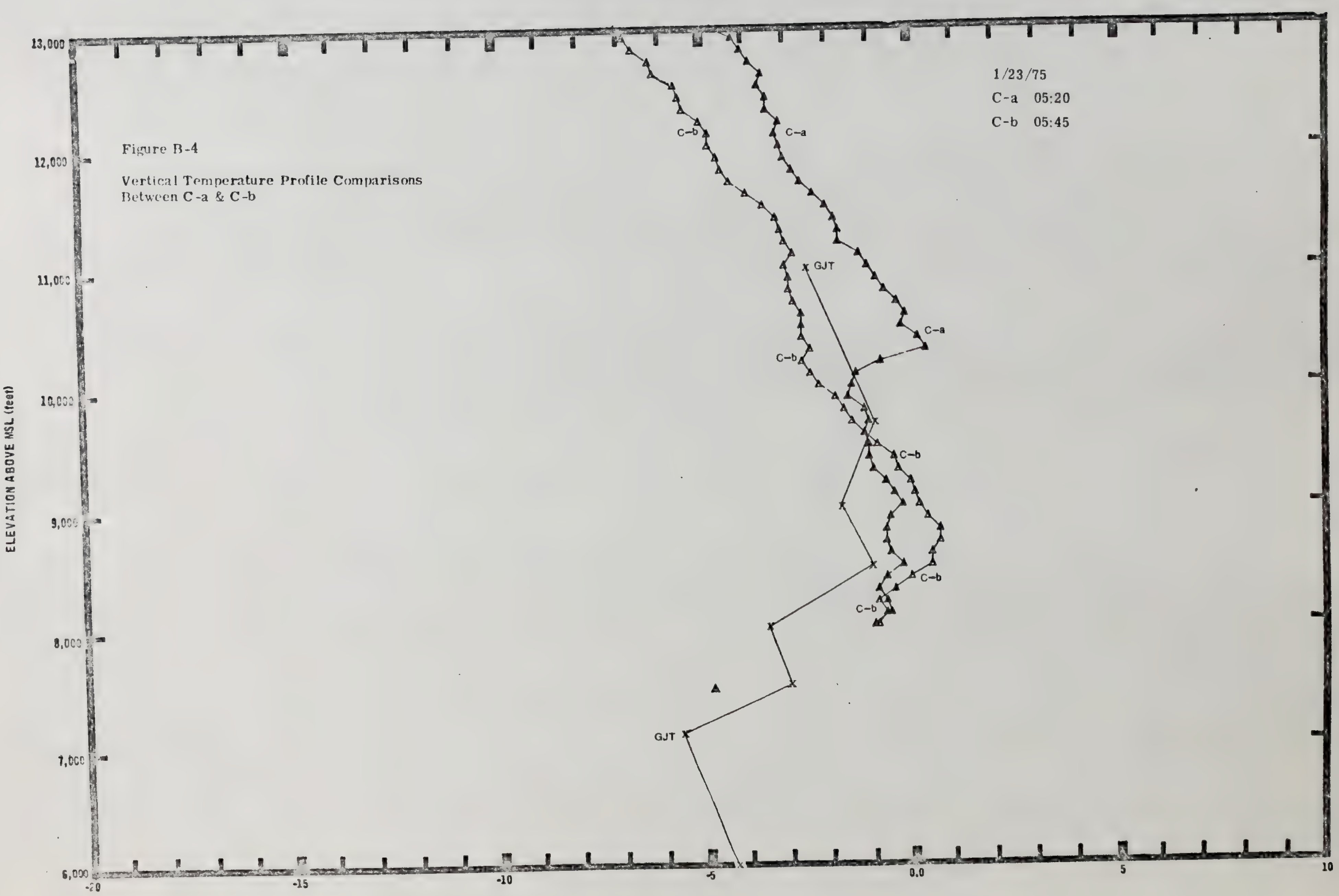


Figure B-4

Vertical Temperature Profile Comparisons
Between C-a & C-b

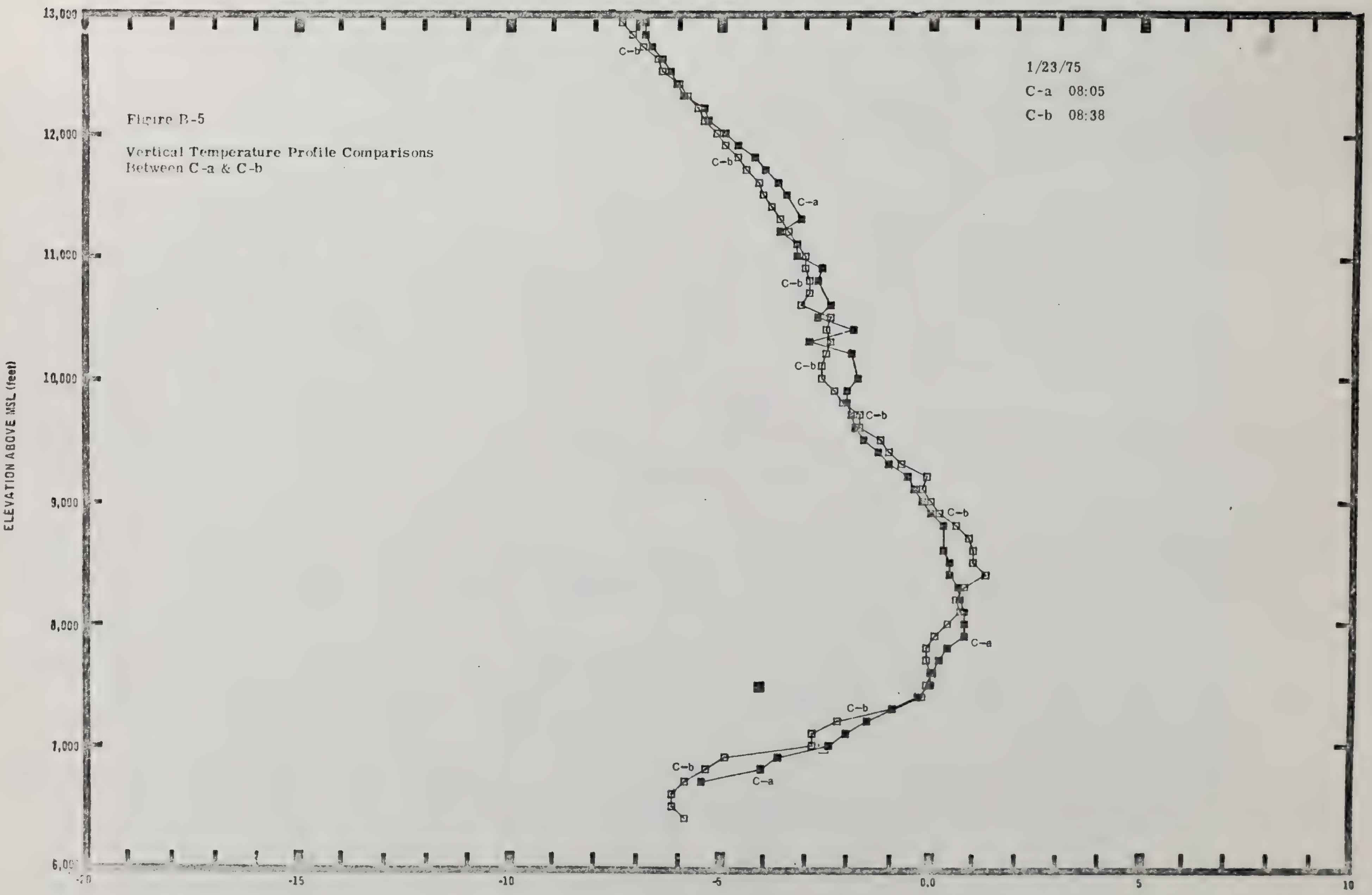


Figure B-5

Vertical Temperature Profile Comparisons Between C-a & C-b

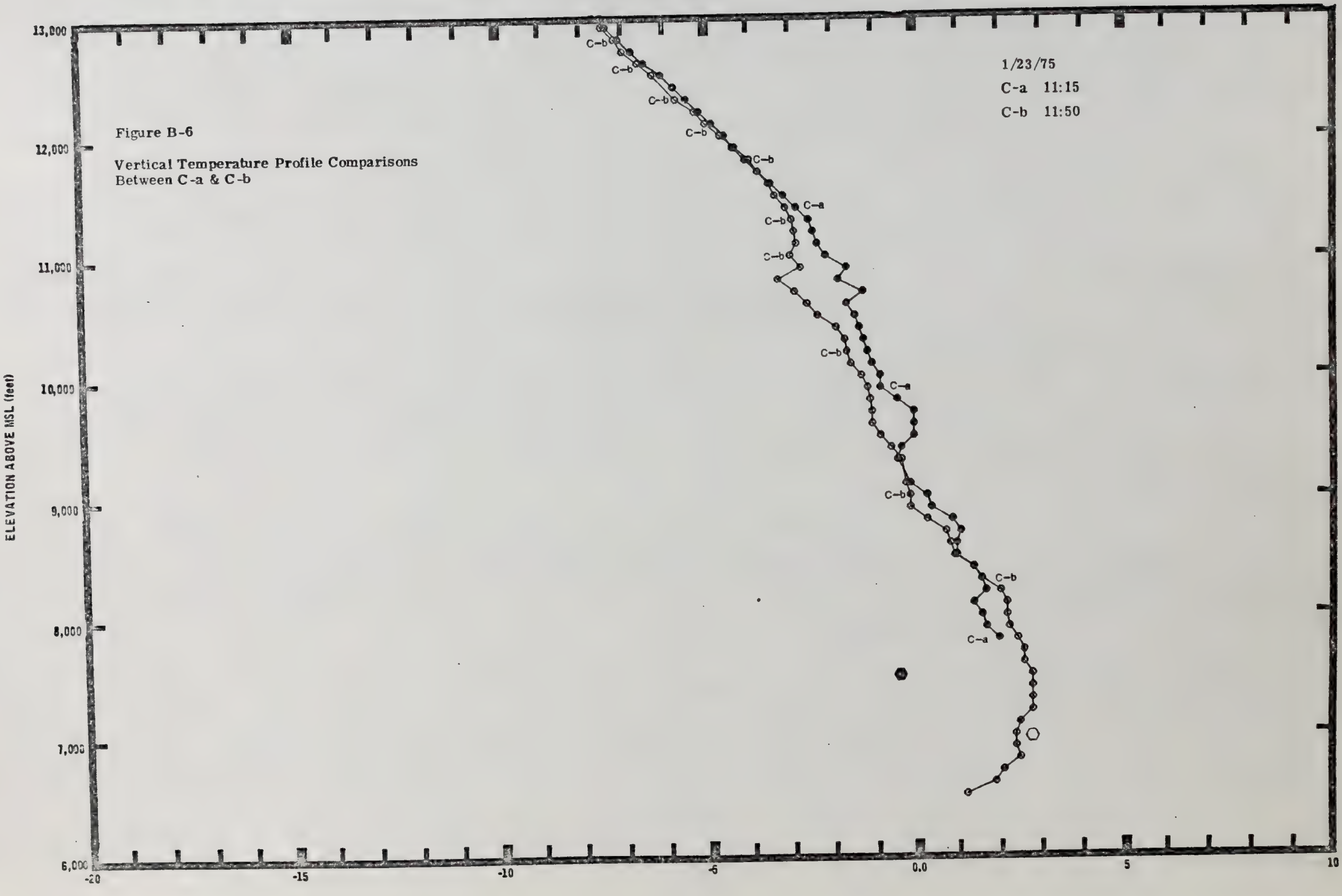


Figure B-6

Vertical Temperature Profile Comparisons
Between C-a & C-b

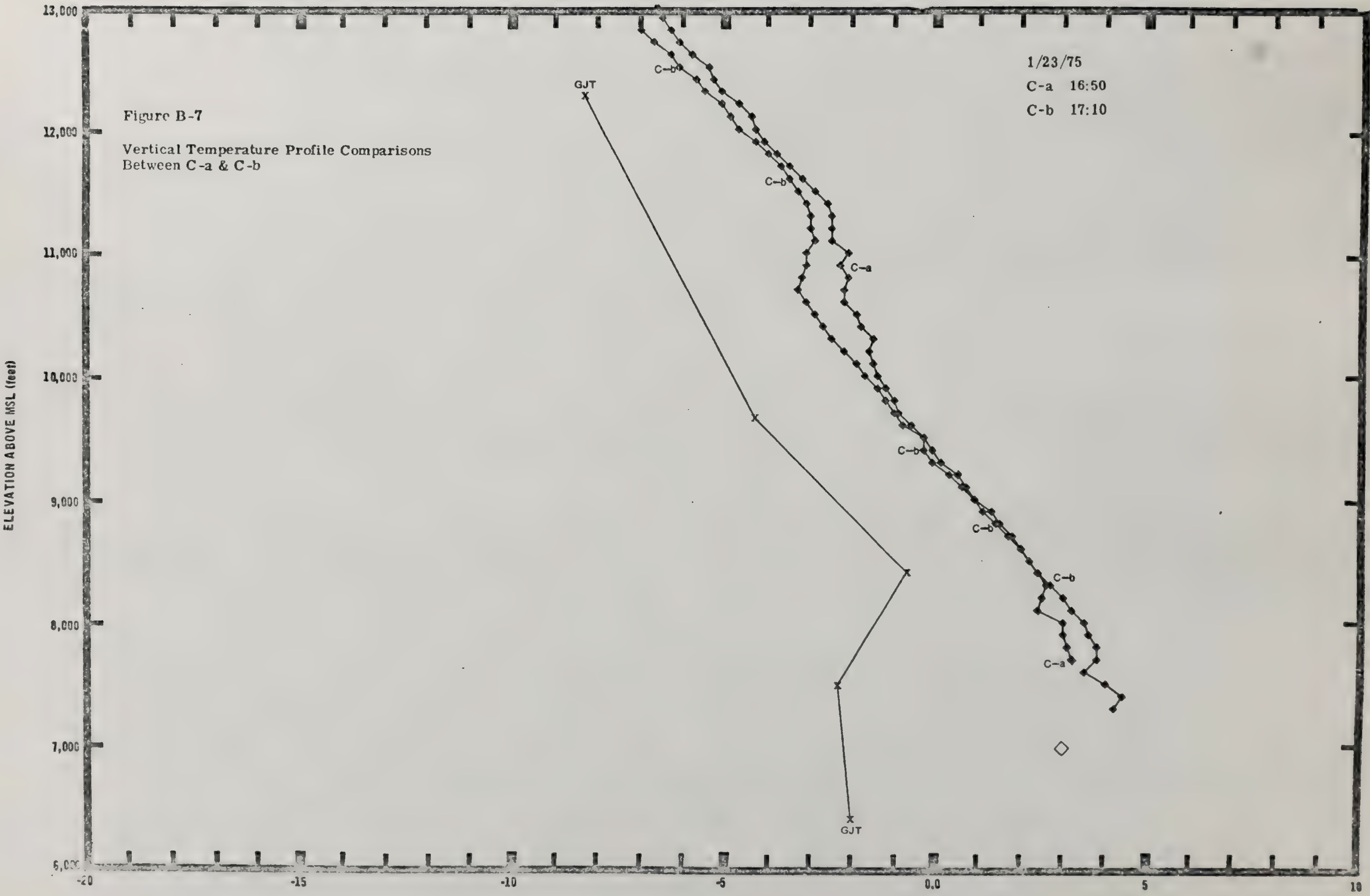
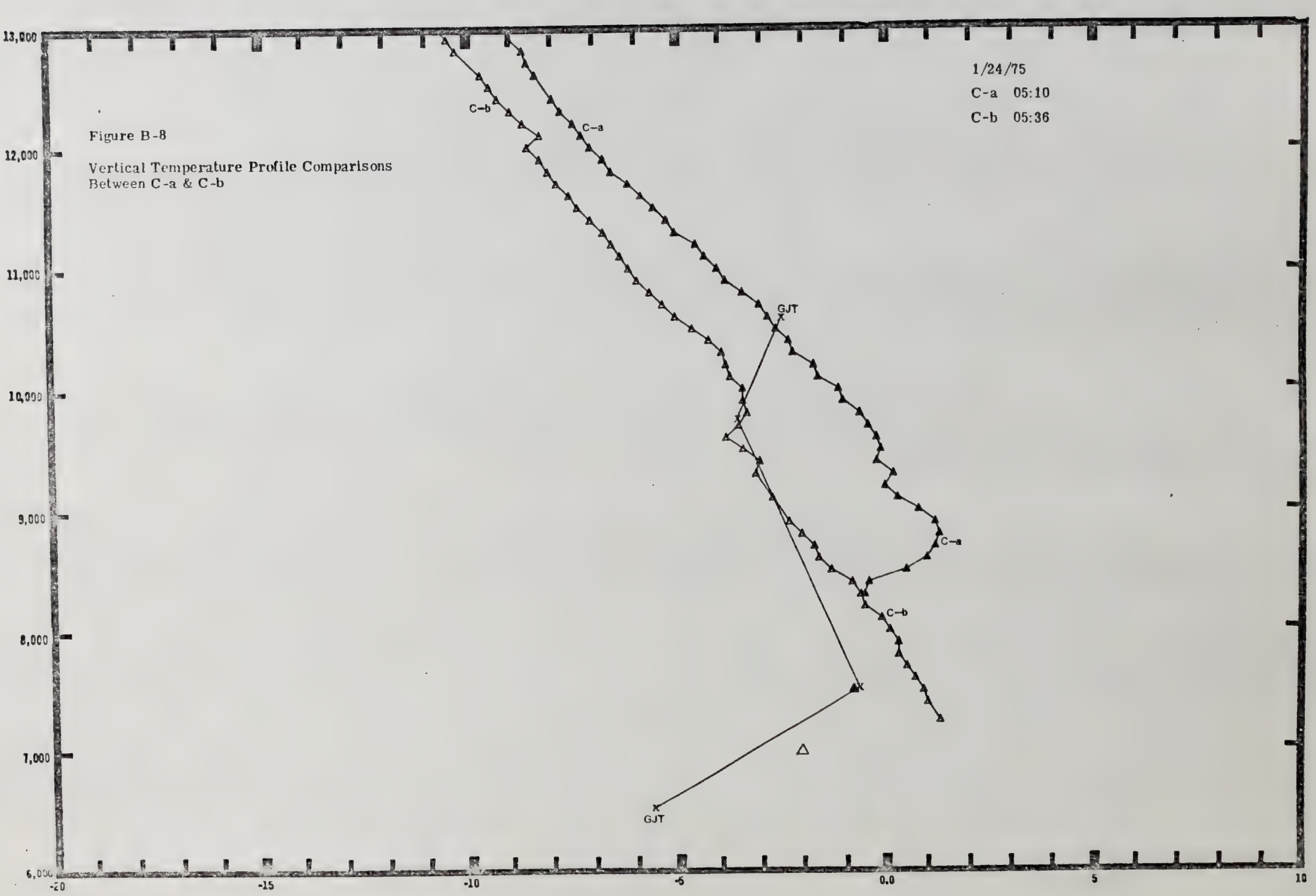


Figure B-7

Vertical Temperature Profile Comparisons Between C-a & C-b

Figure B-8

Vertical Temperature Profile Comparisons
Between C-a & C-b



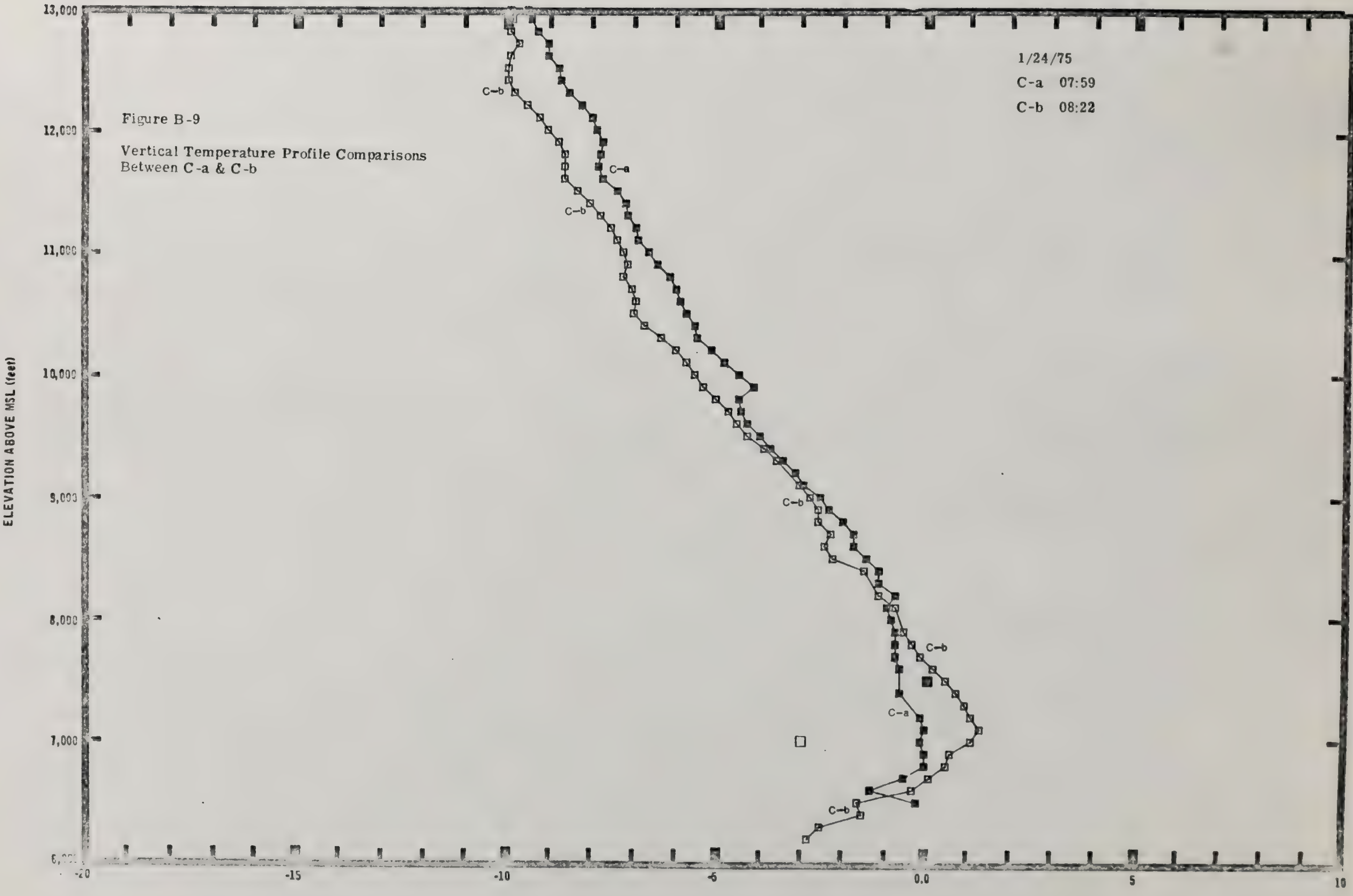


Figure B-9

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/24/75
C-a 07:59
C-b 08:22

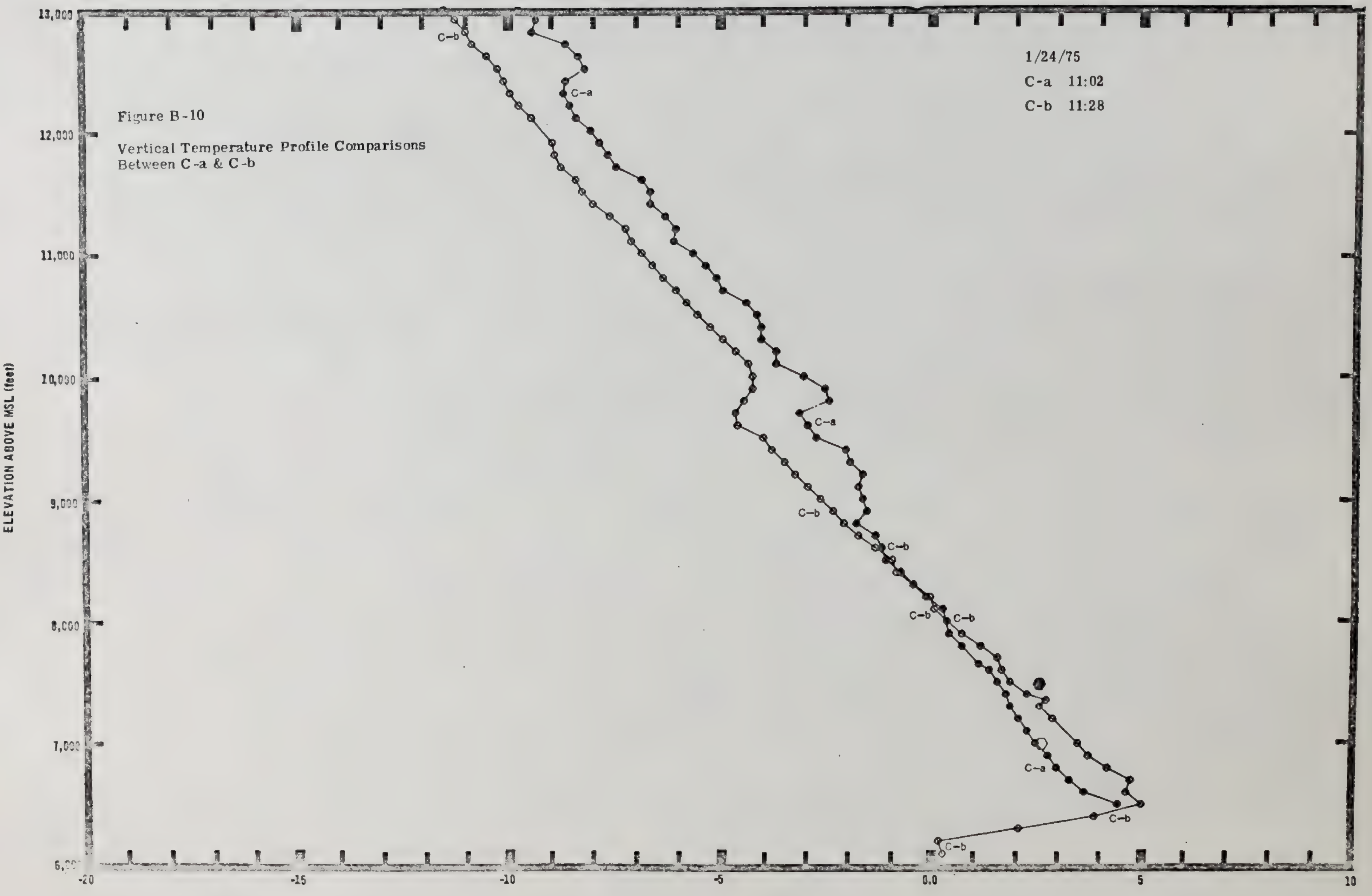


Figure B-10

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/24/75
C-a 11:02
C-b 11:28

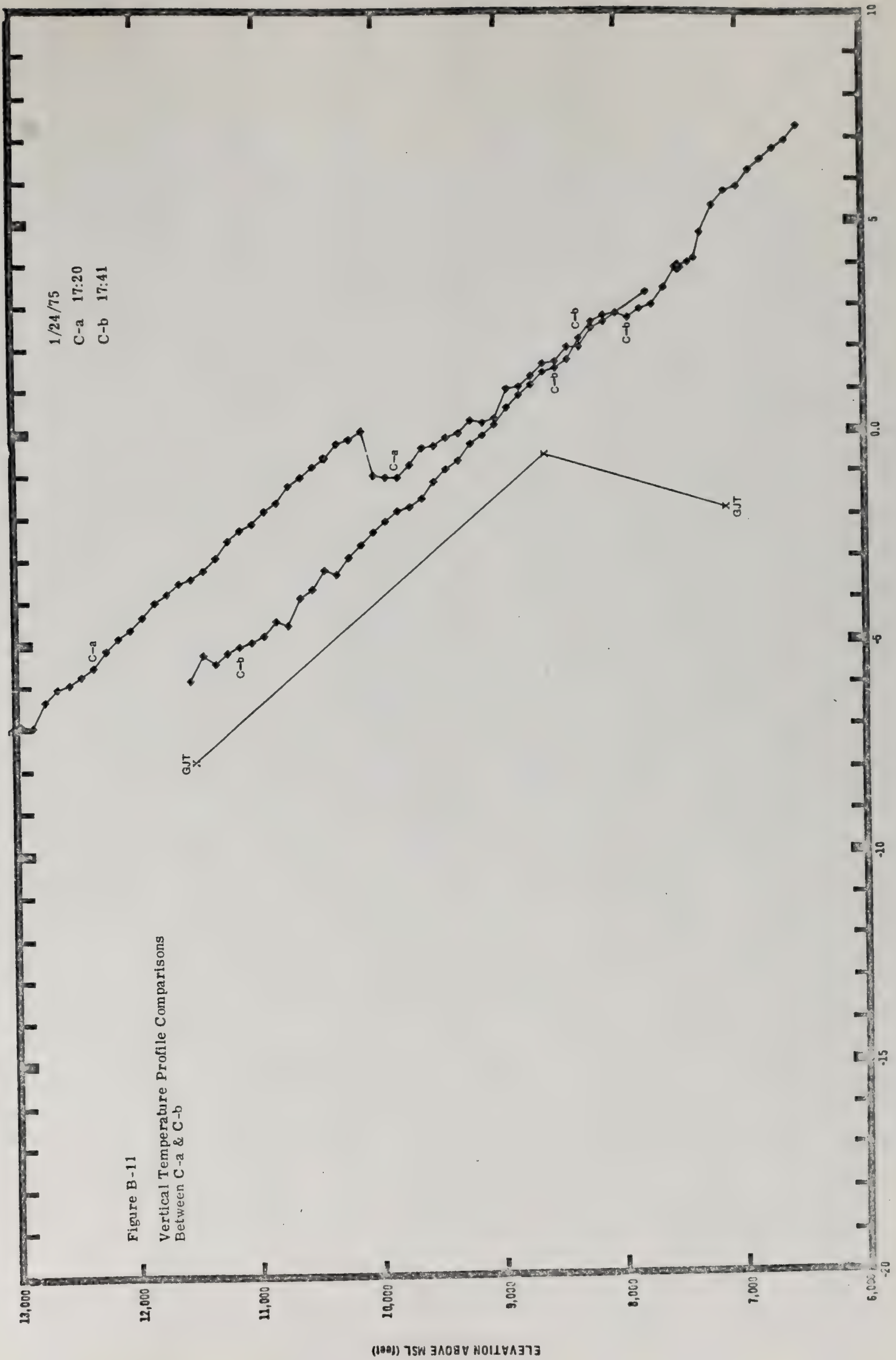


Figure B-11

Vertical Temperature Profile Comparisons Between C-a & C-b

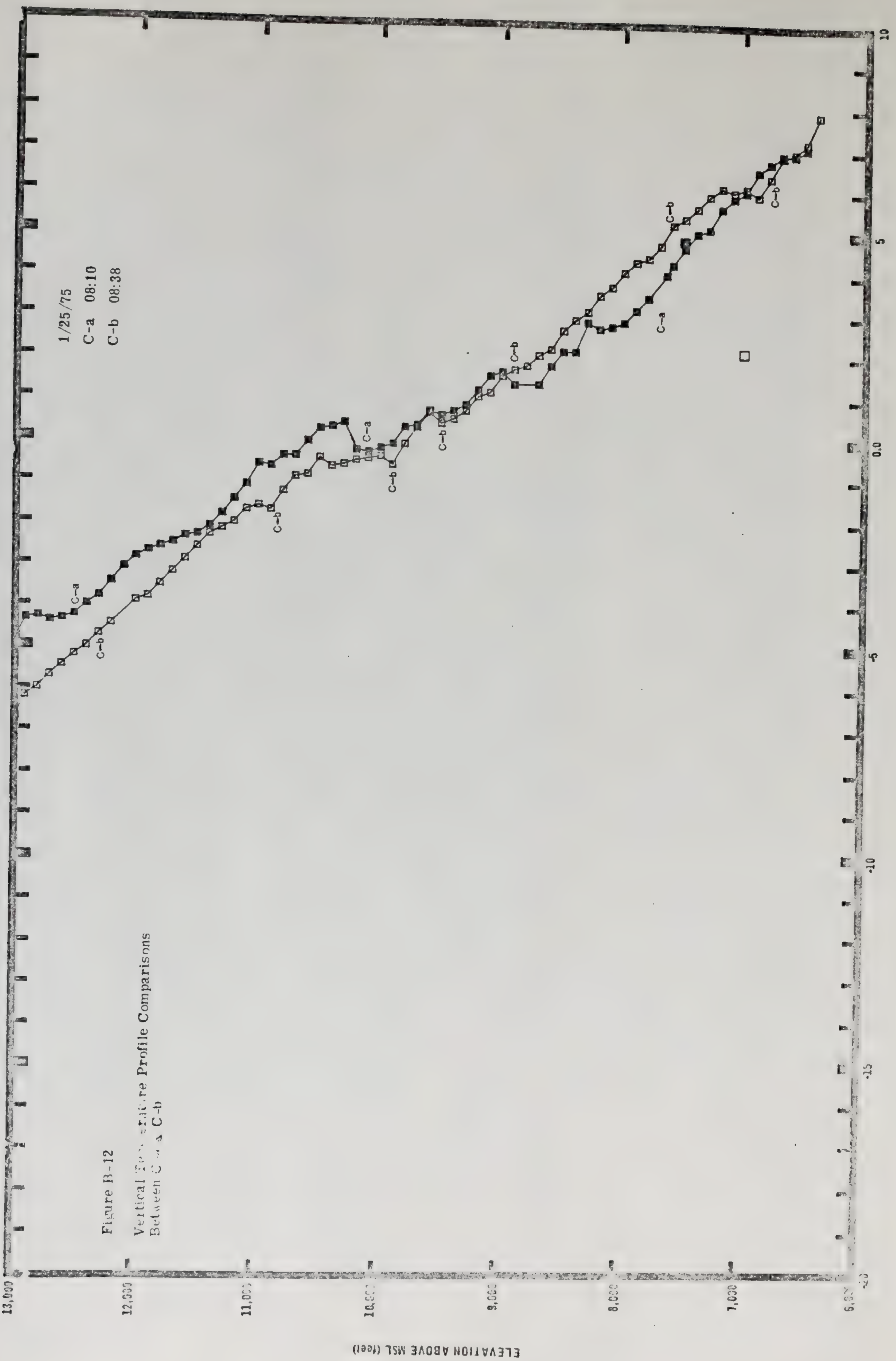


Figure B-12

Vertical Temperature Profile Comparisons Between C-a & C-b

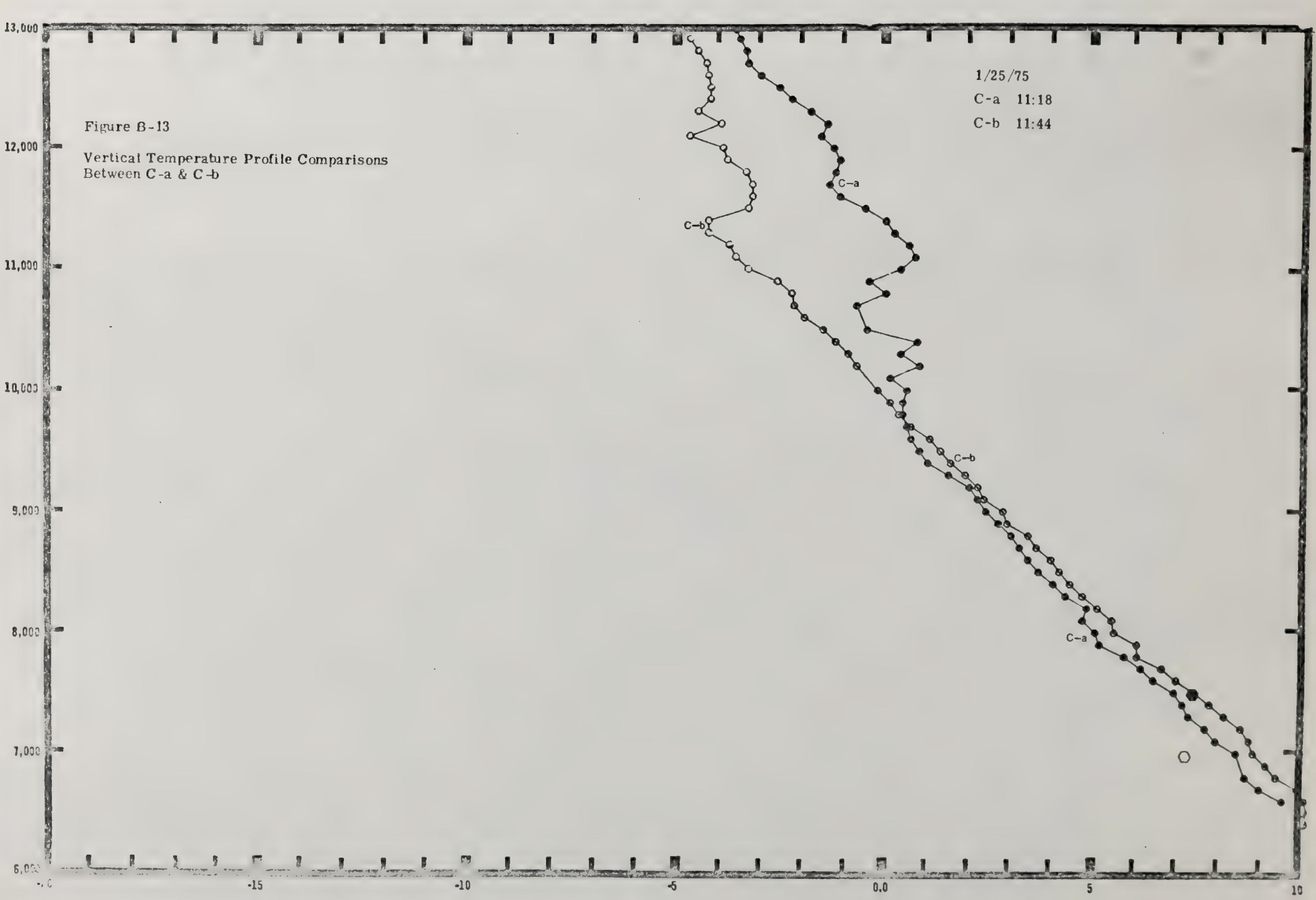


Figure B-13

Vertical Temperature Profile Comparisons
Between C-a & C-b

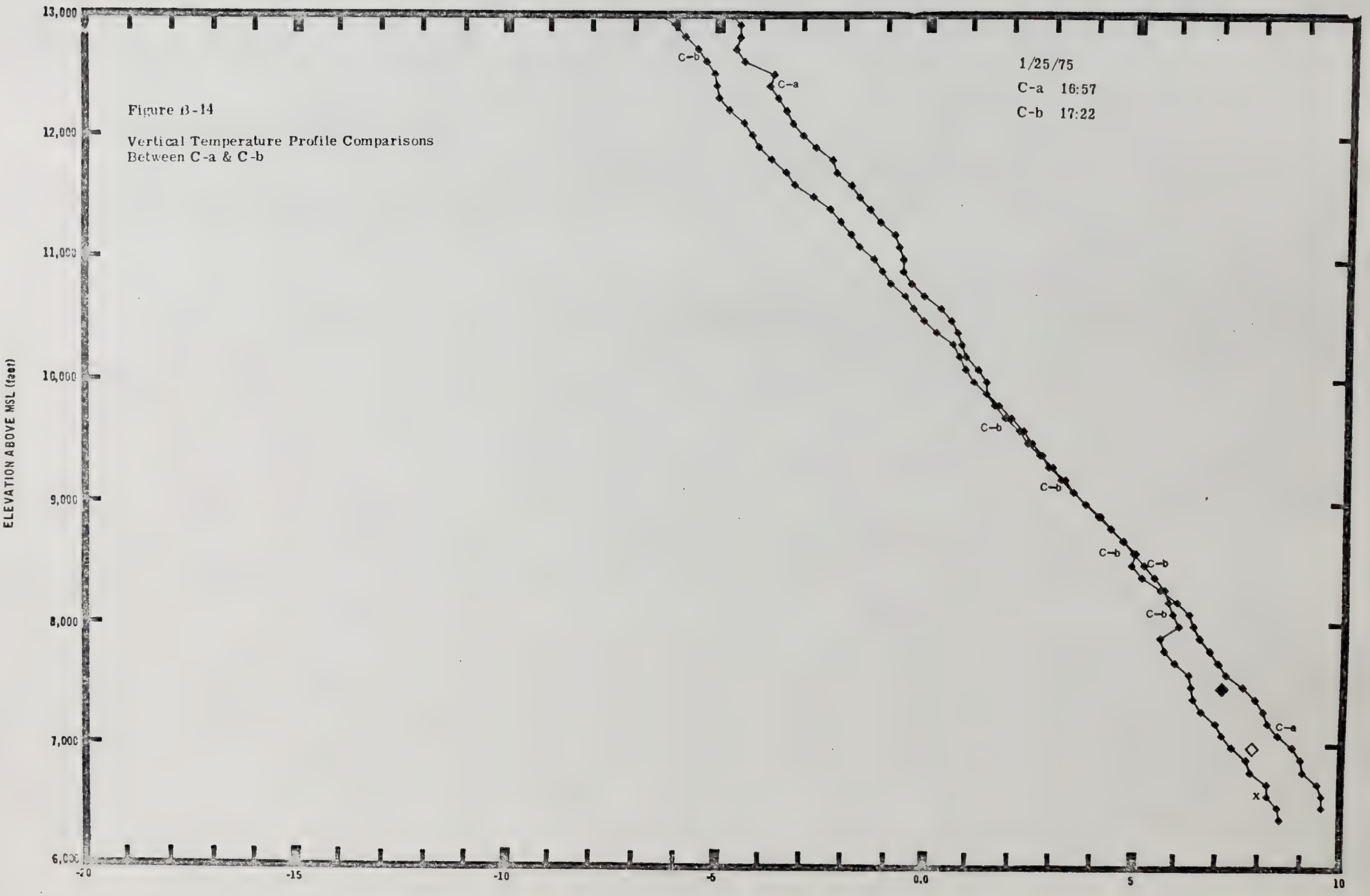


Figure B-14

Vertical Temperature Profile Comparisons
Between C-a & C-b

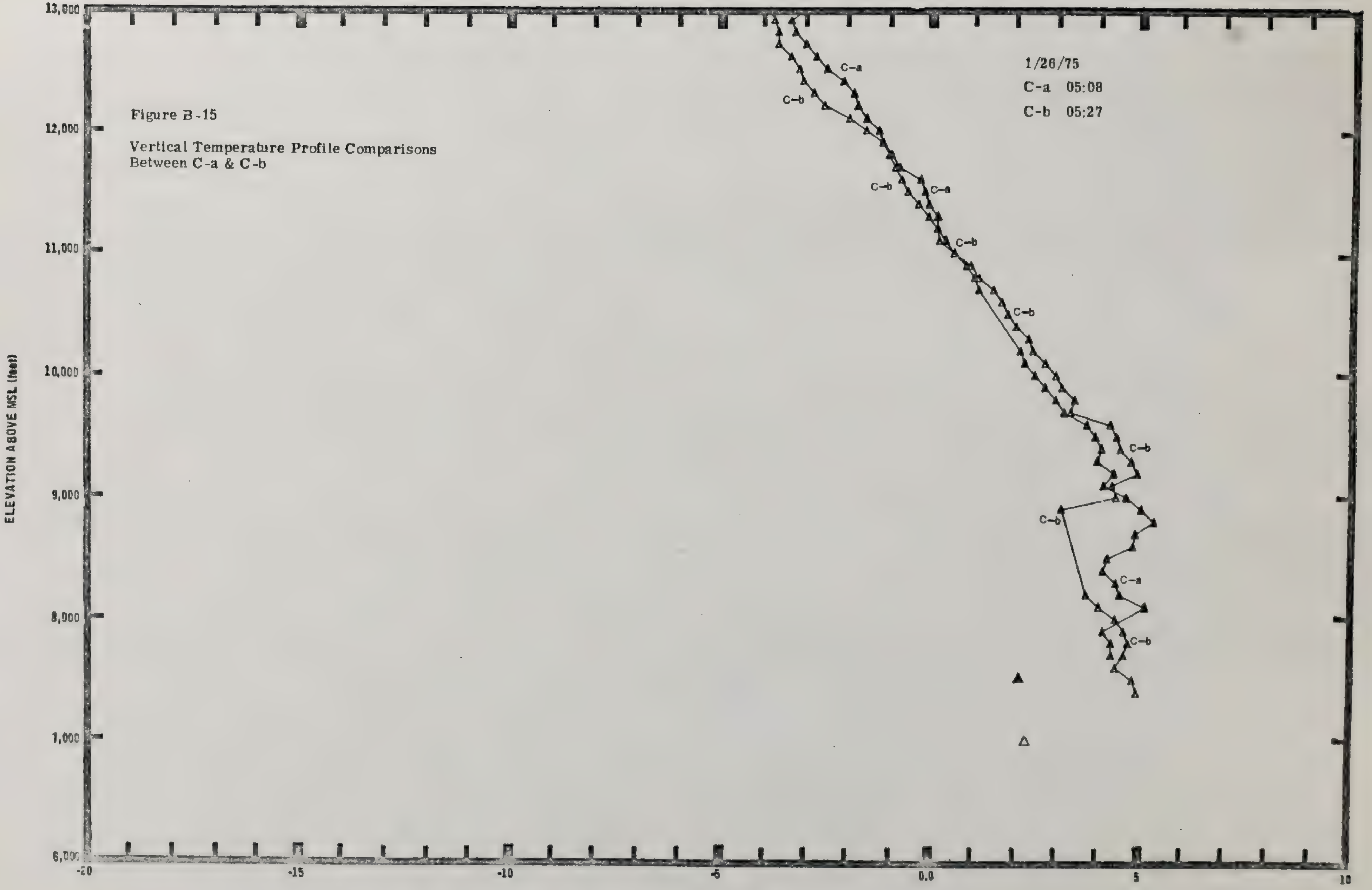


Figure B-15

Vertical Temperature Profile Comparisons Between C-a & C-b

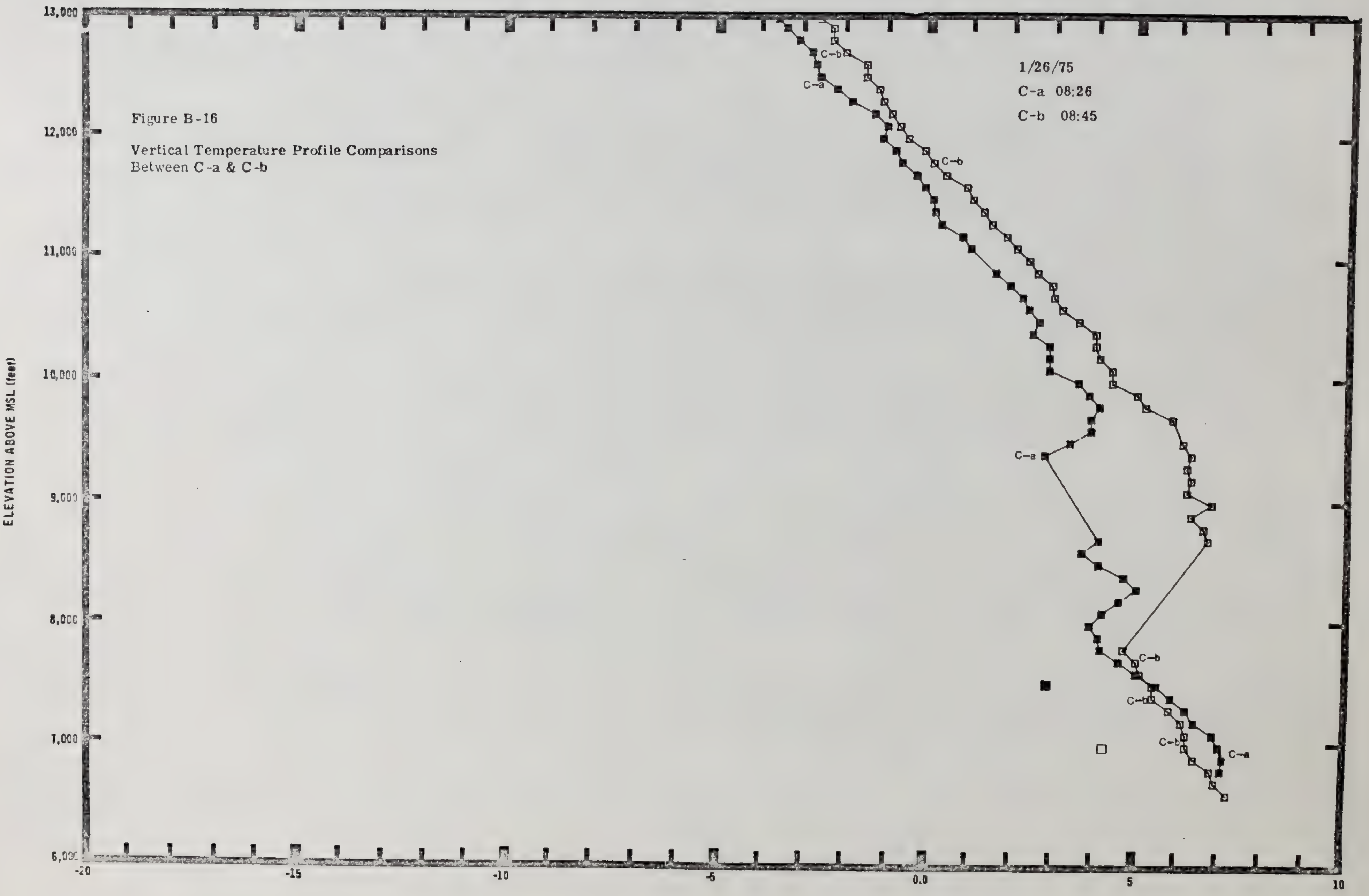


Figure B-16

Vertical Temperature Profile Comparisons
Between C-a & C-b

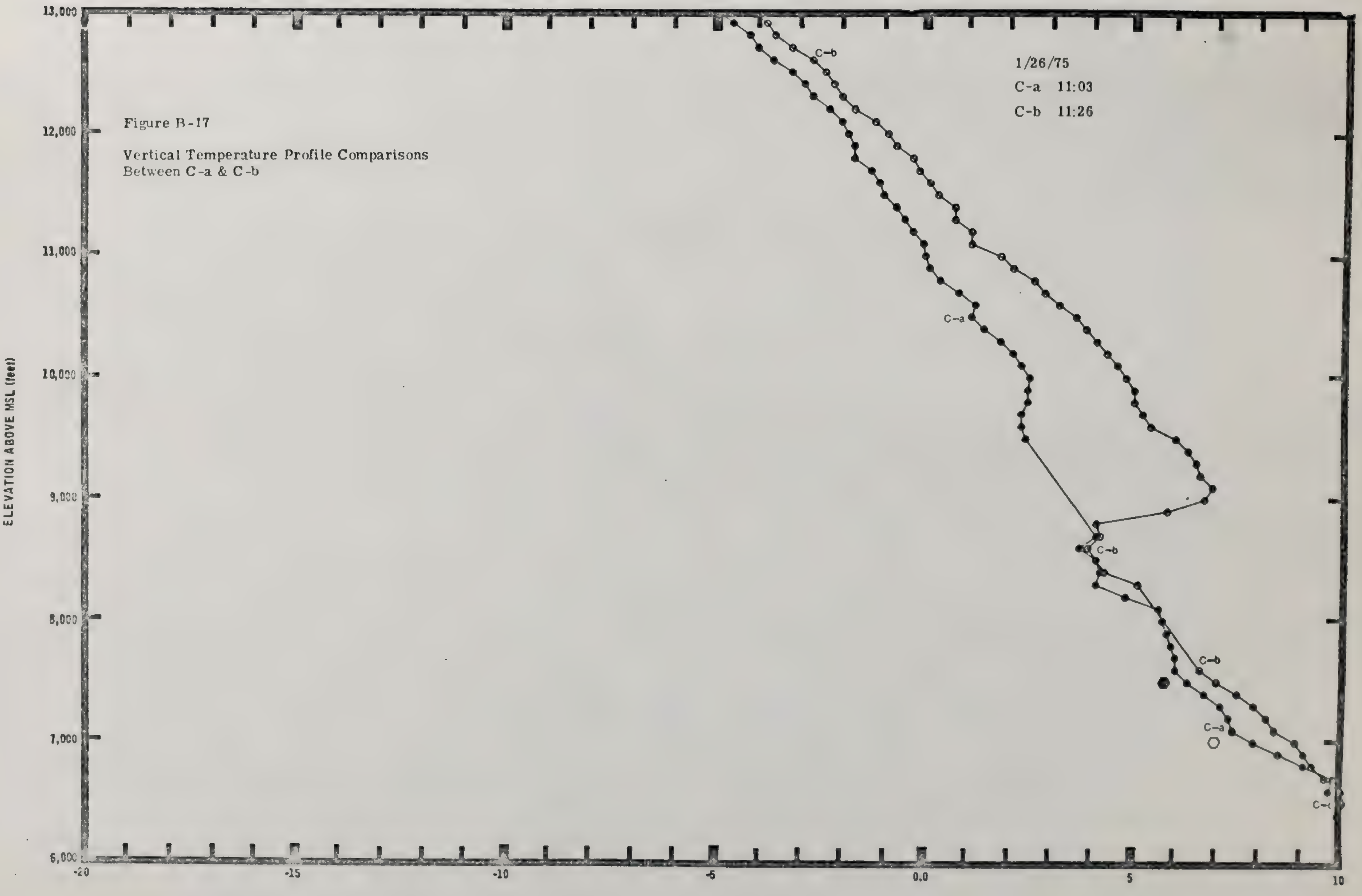


Figure B-17

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/26/75
C-a 11:03
C-b 11:26

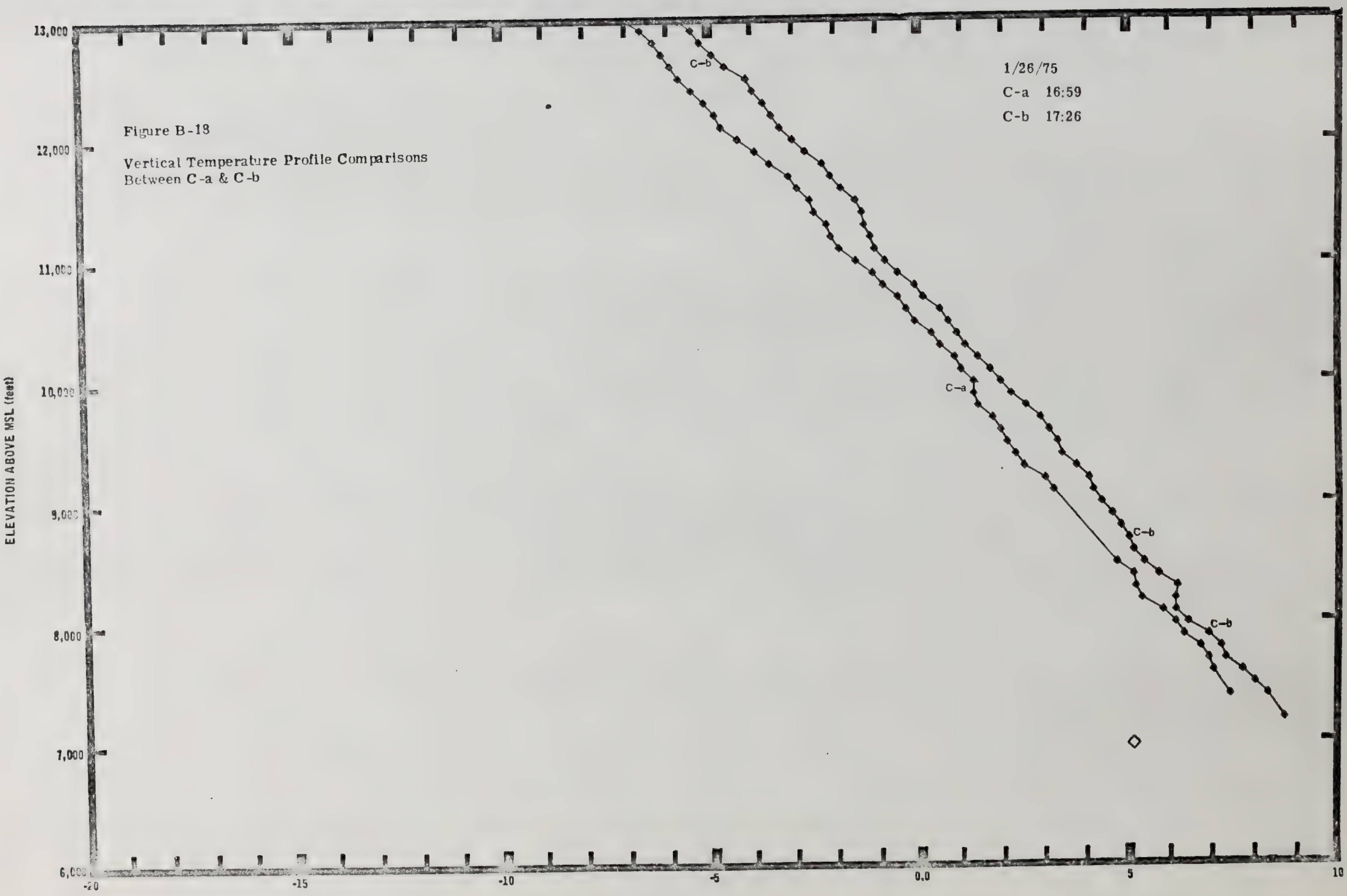
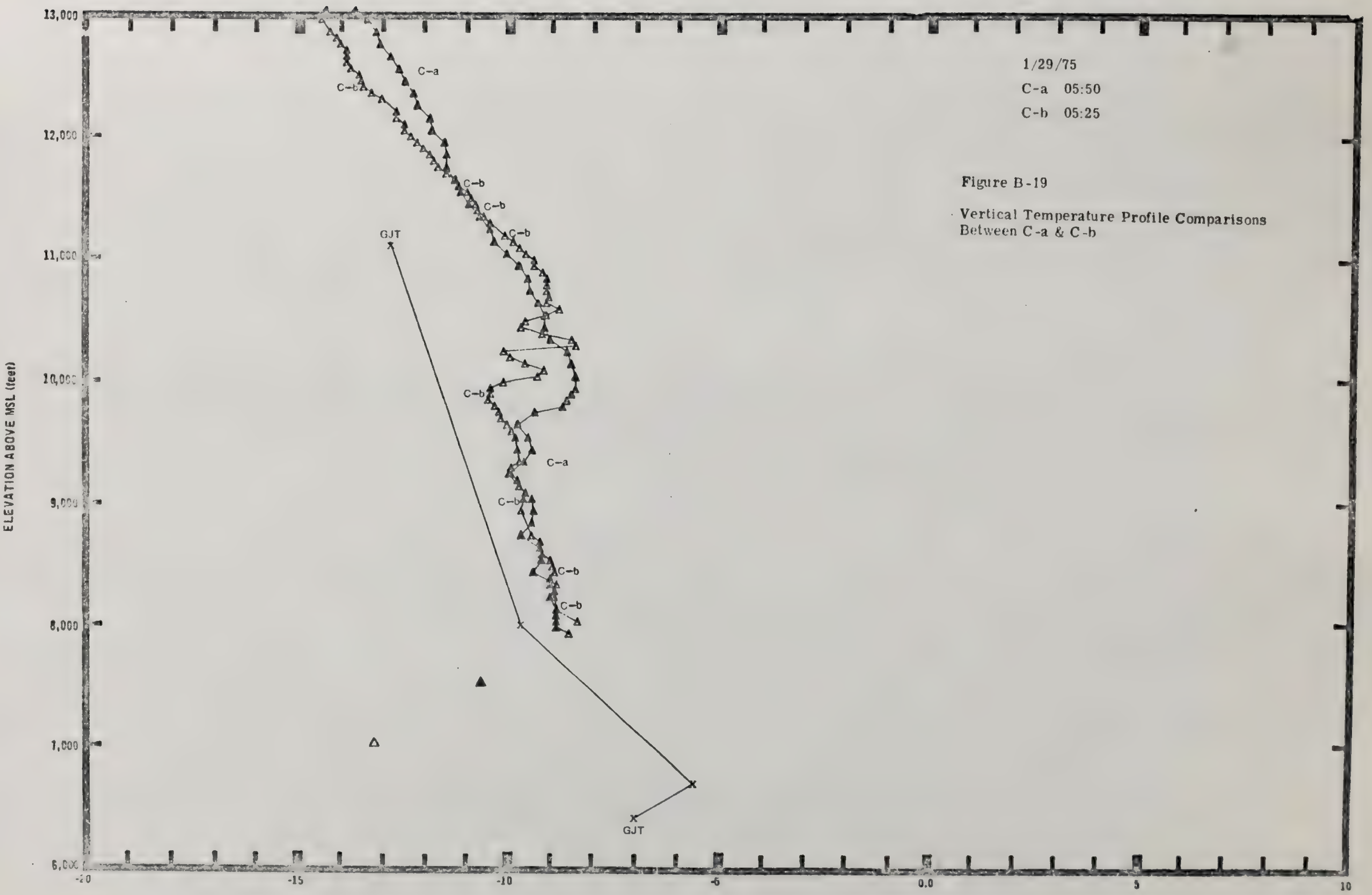


Figure B-18

Vertical Temperature Profile Comparisons
Between C-a & C-b



1/29/75
C-a 05:50
C-b 05:25

Figure B-19

Vertical Temperature Profile Comparisons Between C-a & C-b

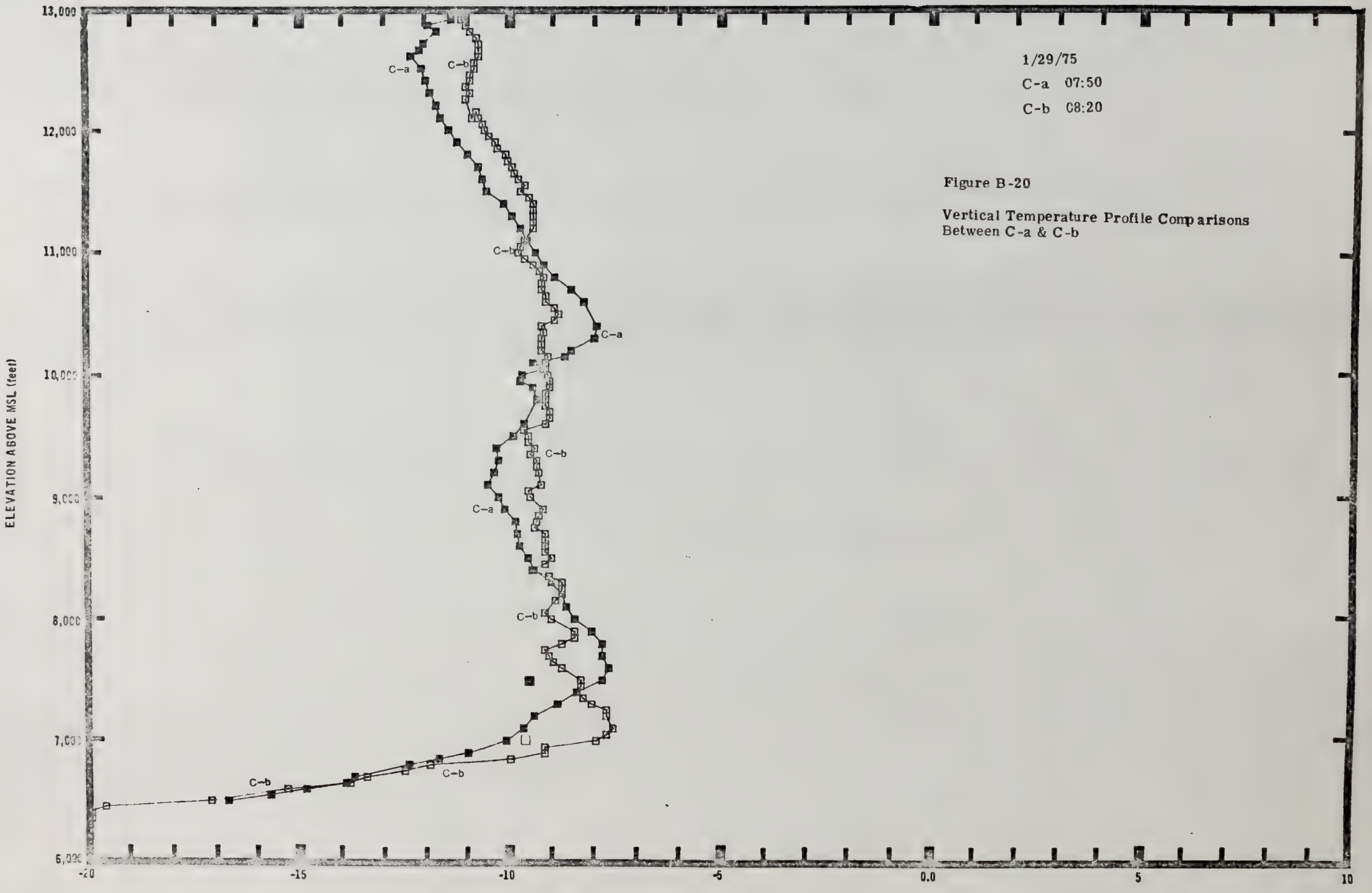


Figure B-20

Vertical Temperature Profile Comparisons Between C-a & C-b

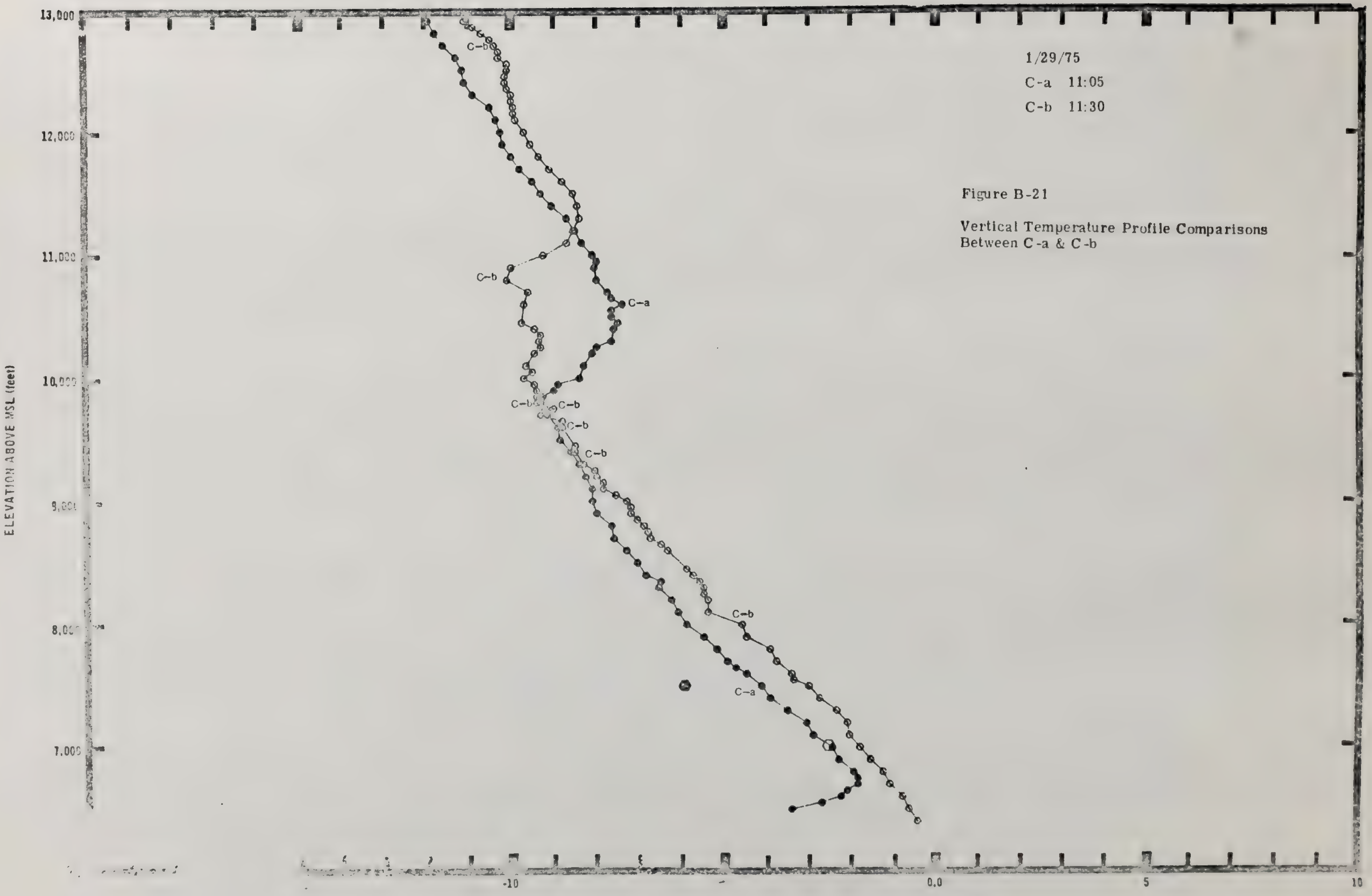
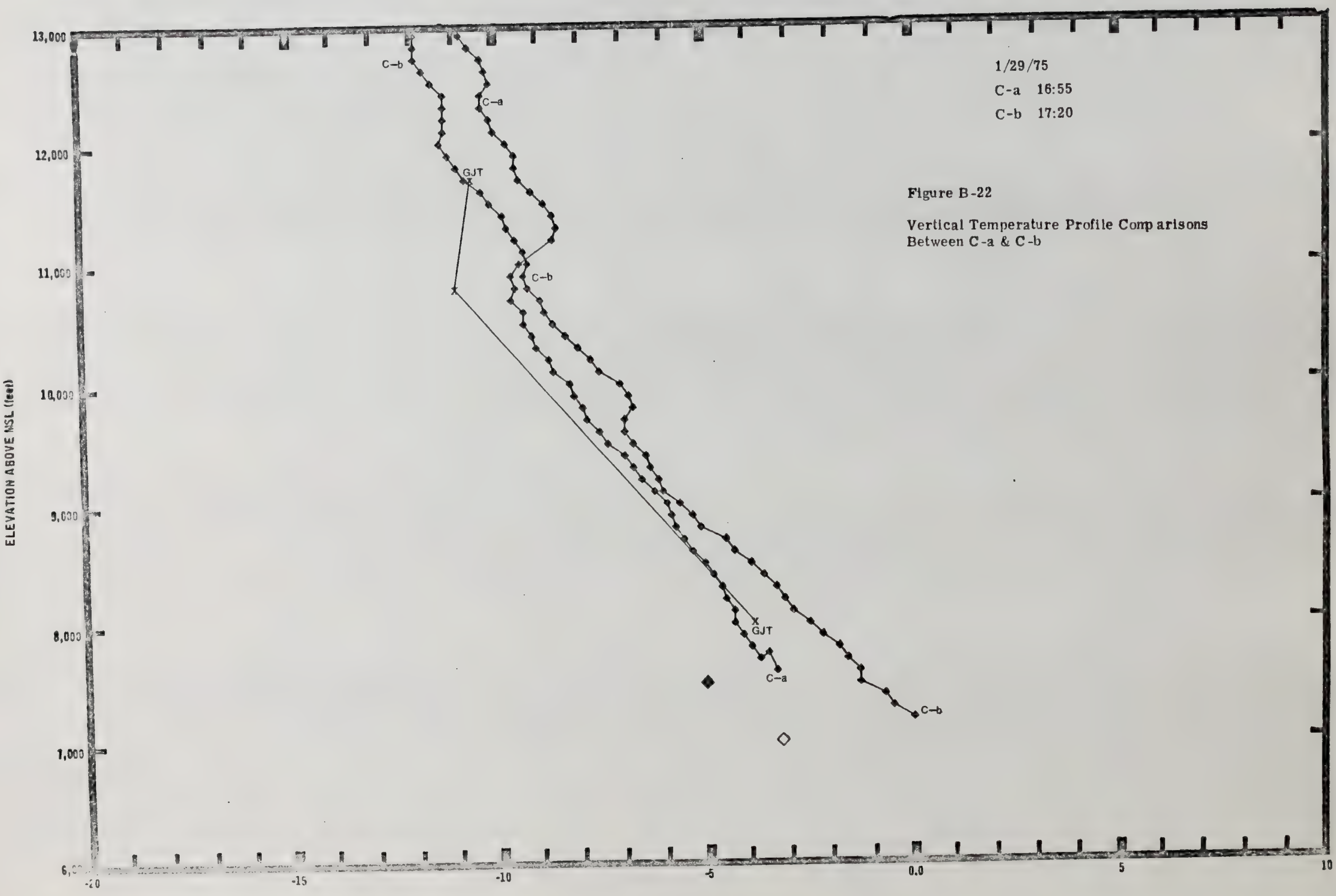


Figure B-21

Vertical Temperature Profile Comparisons
Between C-a & C-b

1/29/75
C-a 11:05
C-b 11:30



1/29/75
C-a 16:55
C-b 17:20

Figure B-22

Vertical Temperature Profile Comparisons Between C-a & C-b

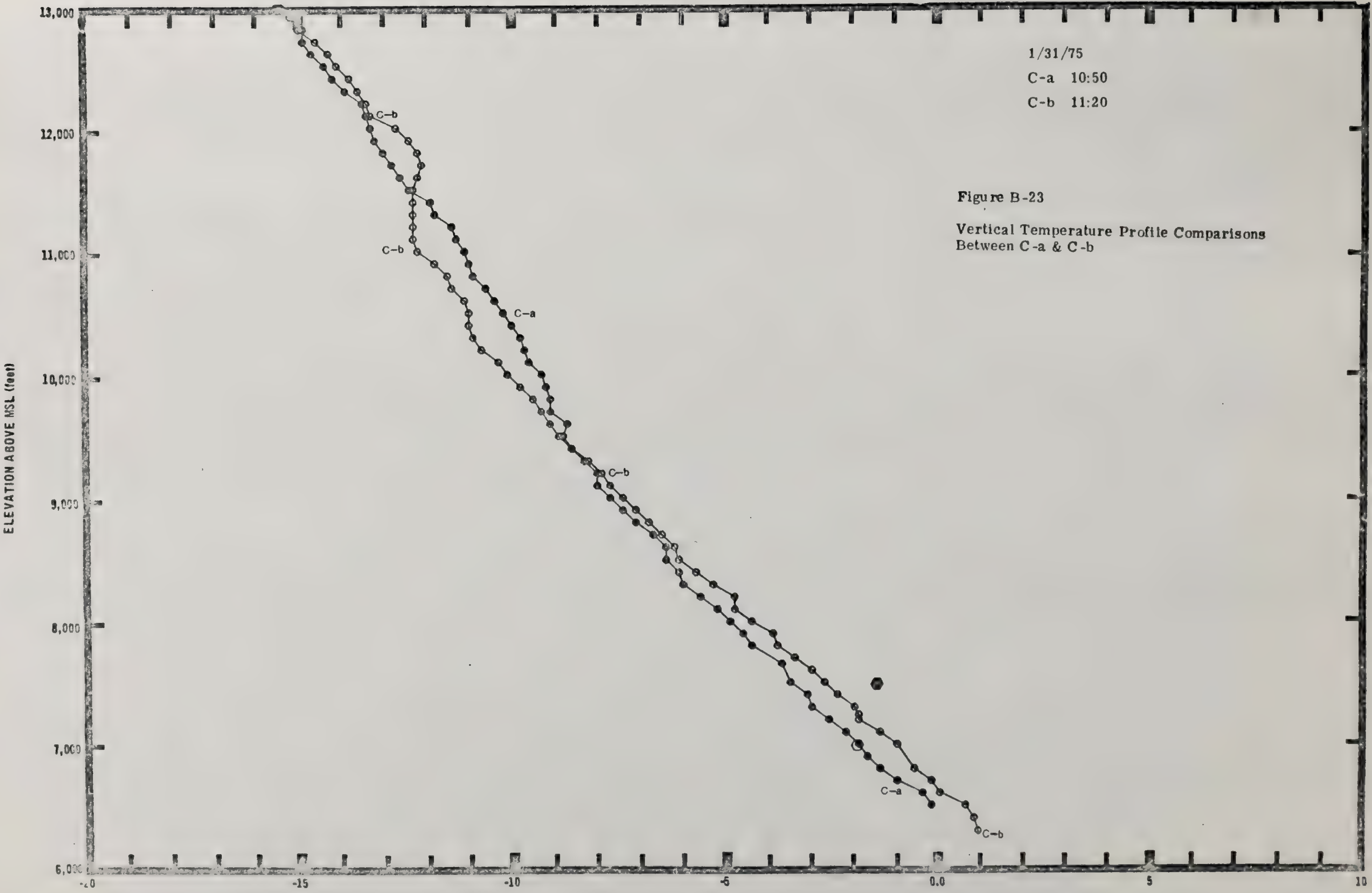


Figure B-23

Vertical Temperature Profile Comparisons Between C-a & C-b

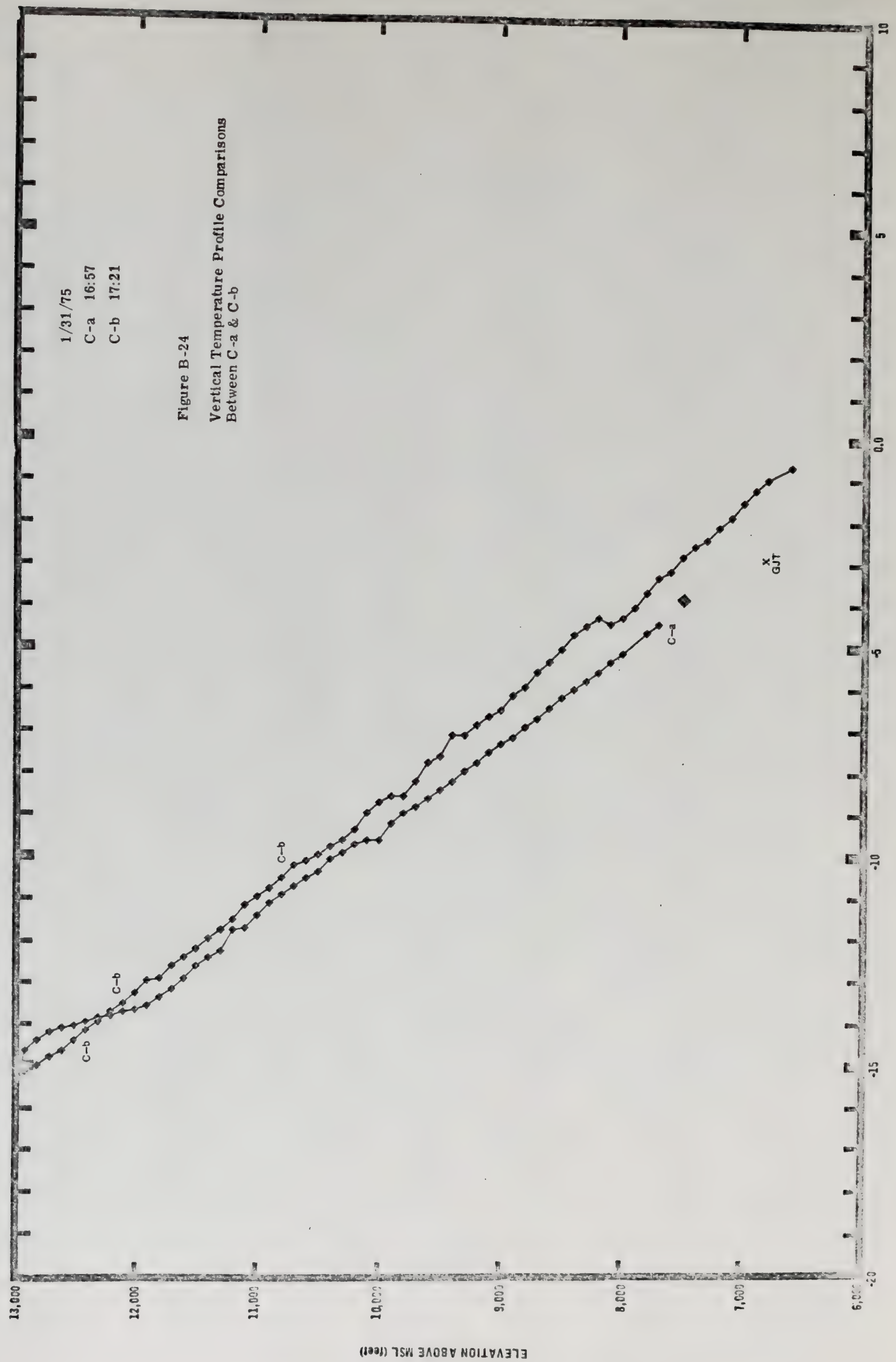


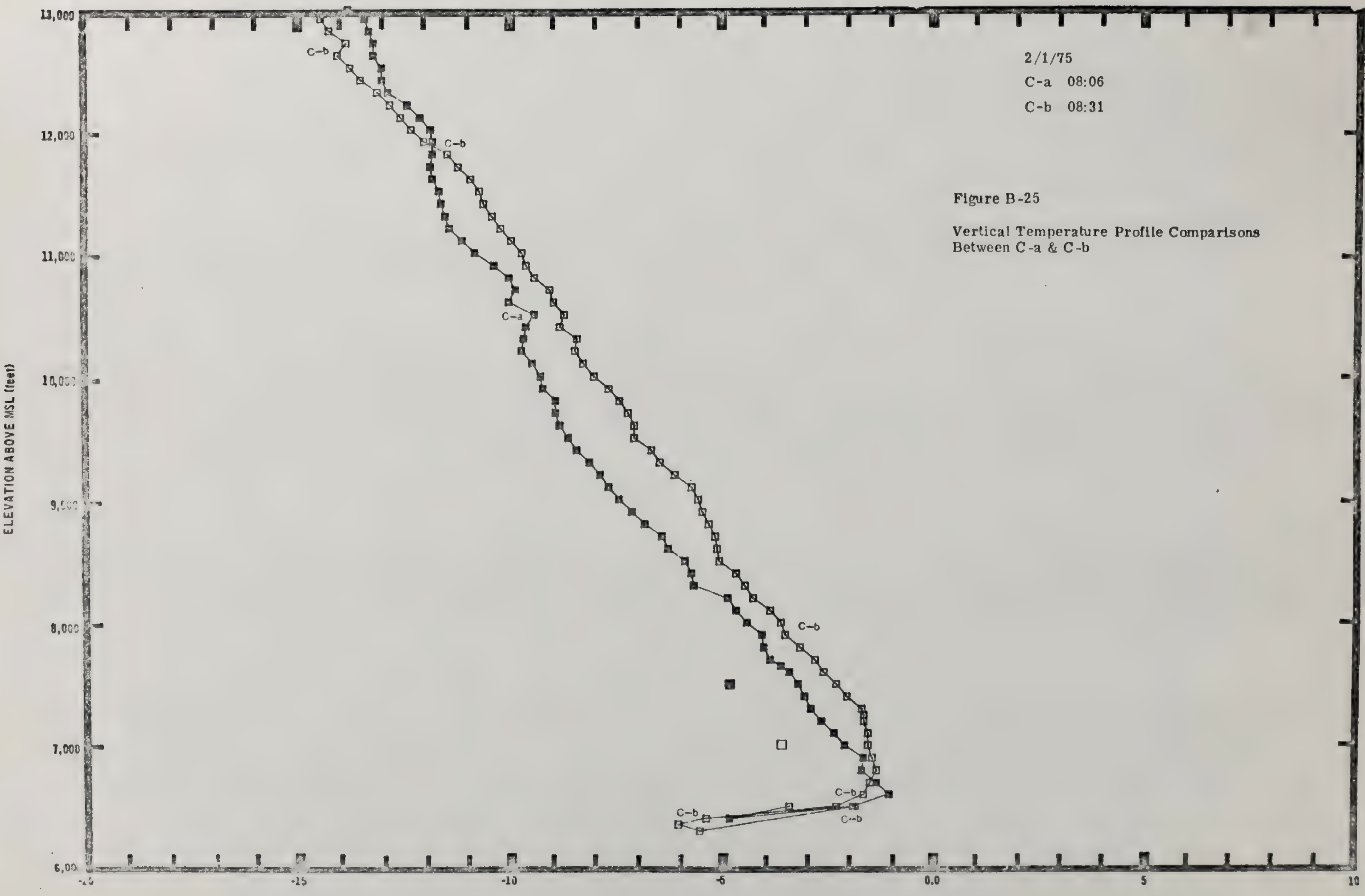
Figure B-24

Vertical Temperature Profile Comparisons Between C-a & C-b

1/31/75

C-a 16:57

C-b 17:21



2/1/75
C-a 08:06
C-b 08:31

Figure B-25

Vertical Temperature Profile Comparisons Between C-a & C-b

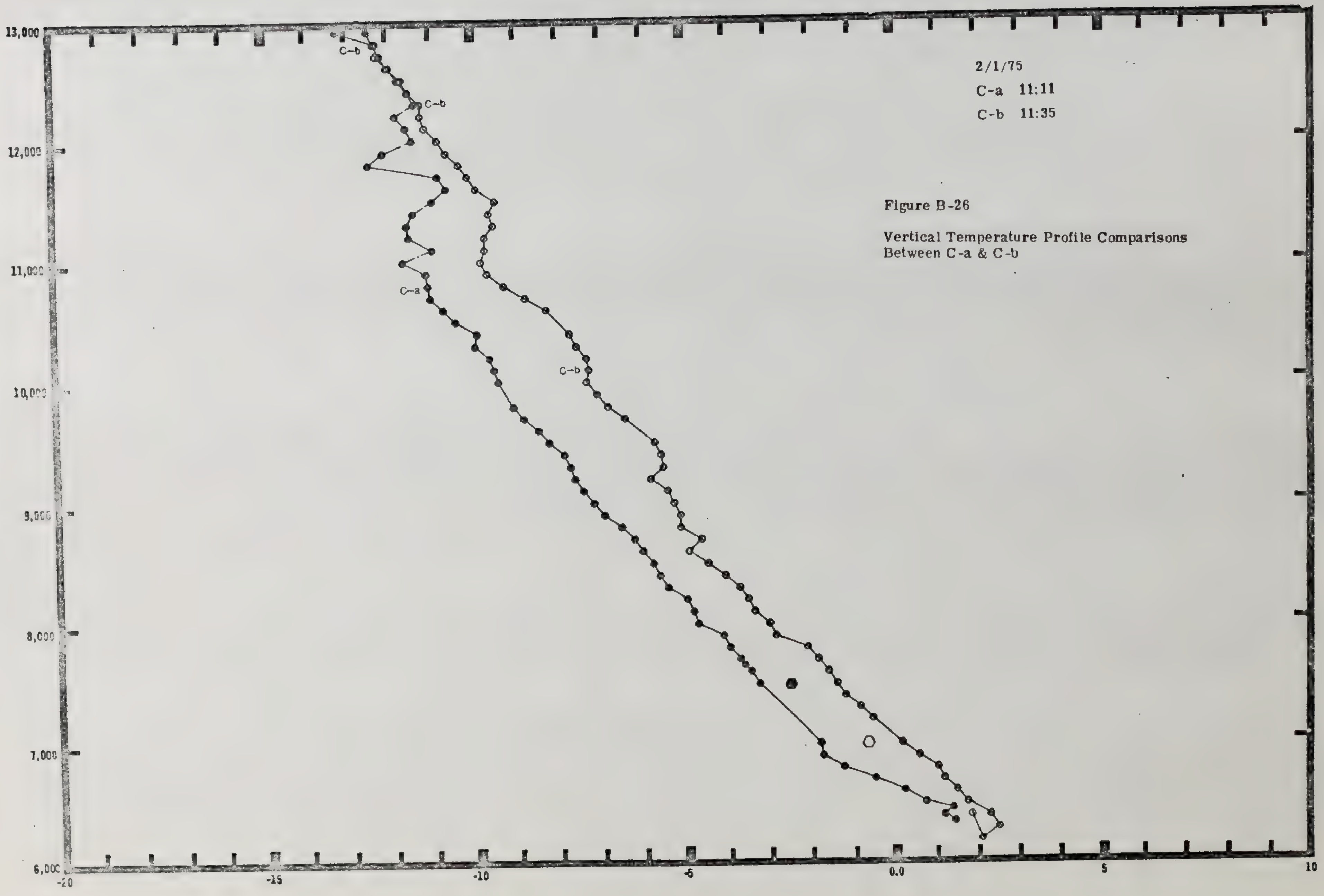


Figure B-26

Vertical Temperature Profile Comparisons
Between C-a & C-b

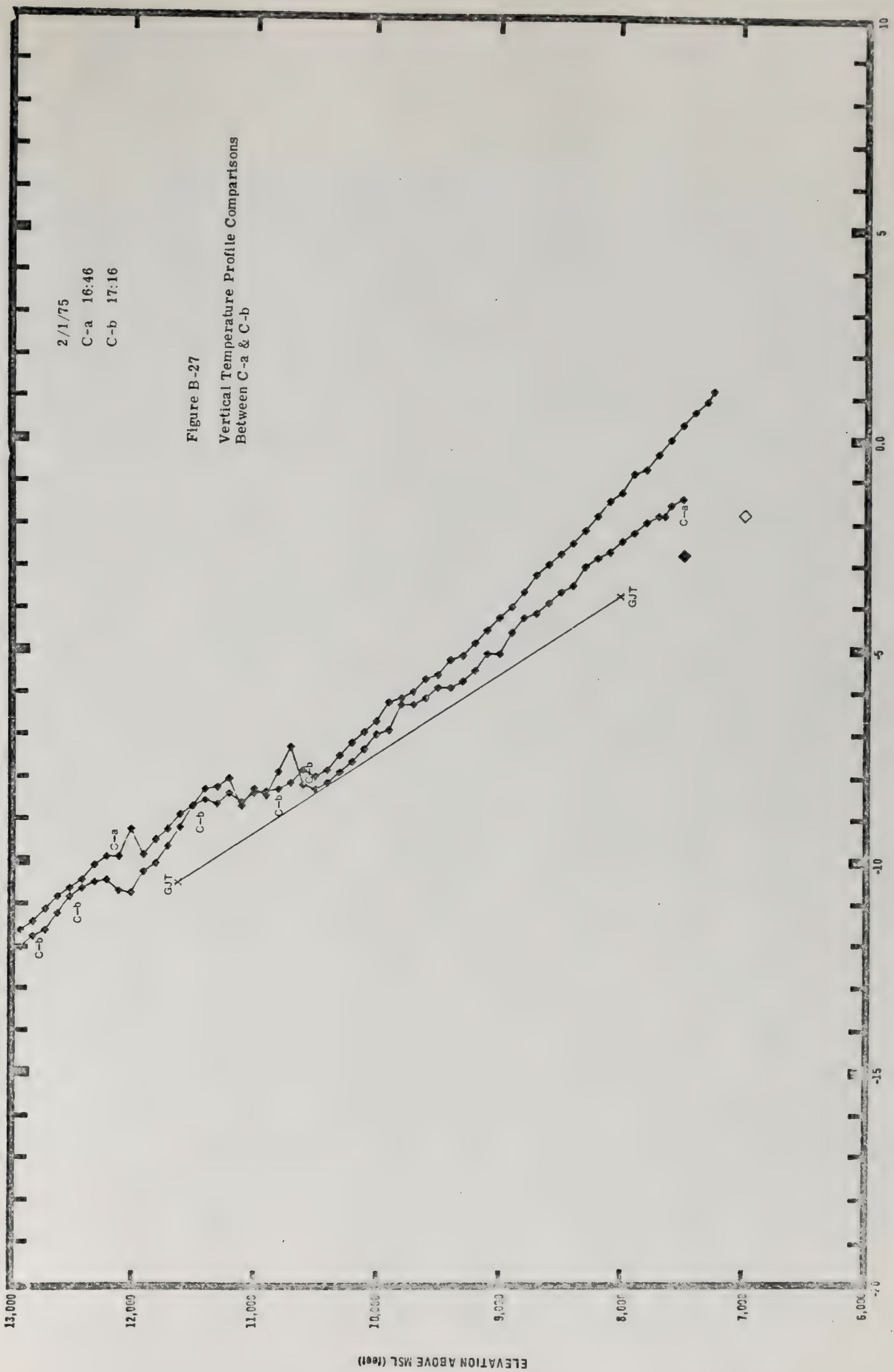


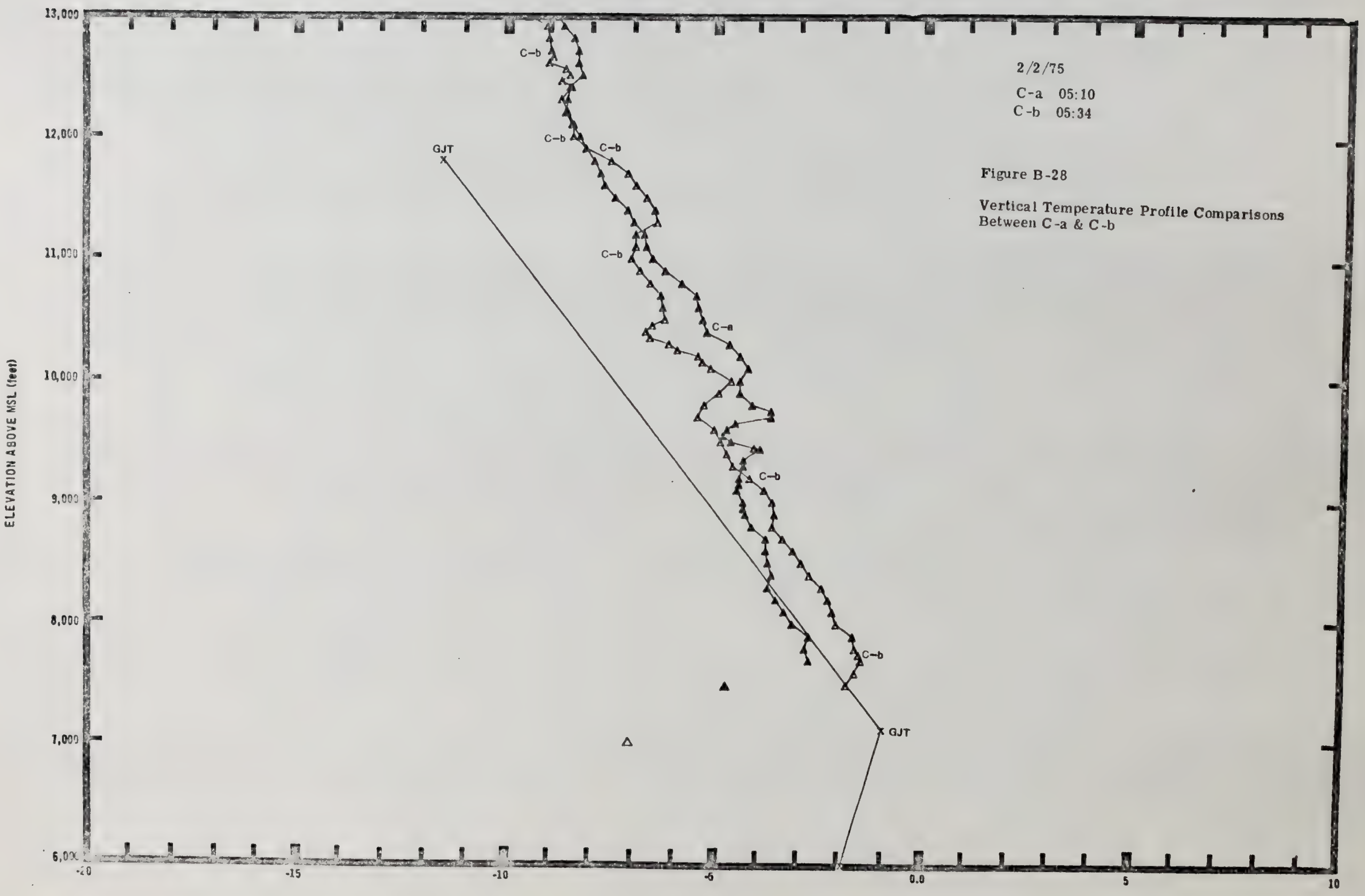
Figure B-27

Vertical Temperature Profile Comparisons Between C-a & C-b

2/1/75

C-a 16:46

C-b 17:16



2/2/75

C-a 05:10
C-b 05:34

Figure B-28

Vertical Temperature Profile Comparisons Between C-a & C-b

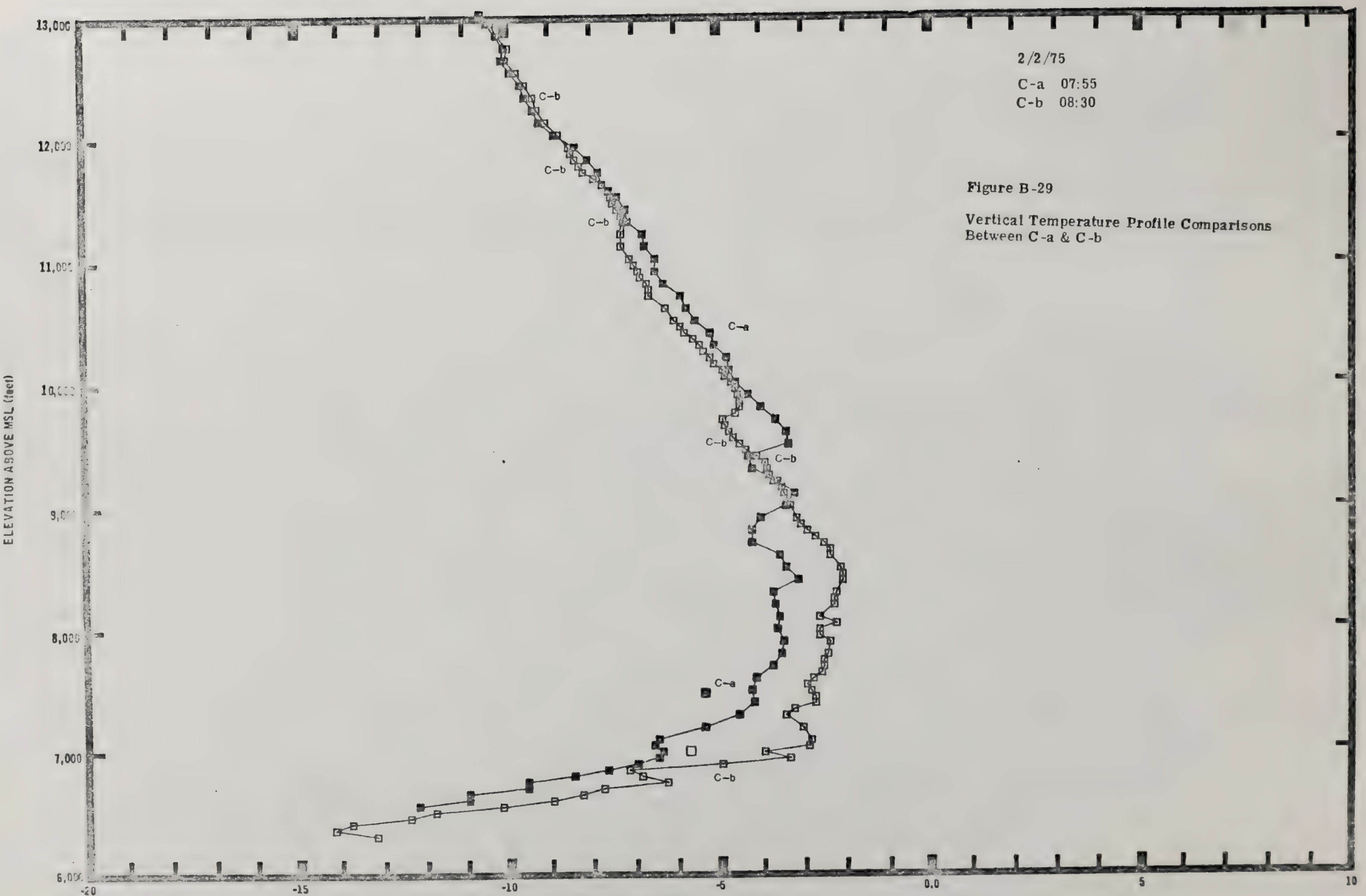
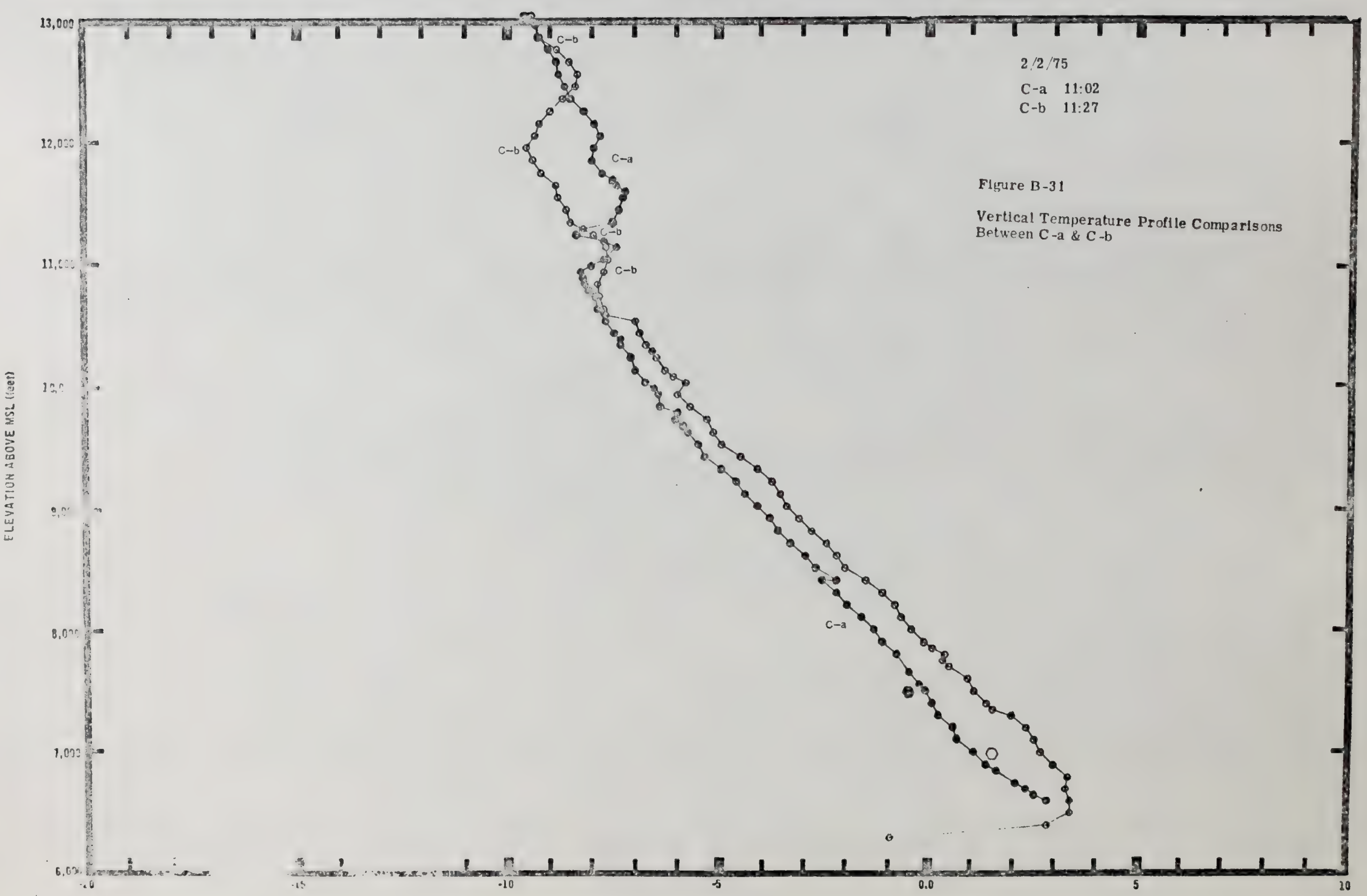


Figure B-29

Vertical Temperature Profile Comparisons
Between C-a & C-b



2/2/75

C-a 11:02
C-b 11:27

Figure B-31

Vertical Temperature Profile Comparisons
Between C-a & C-b

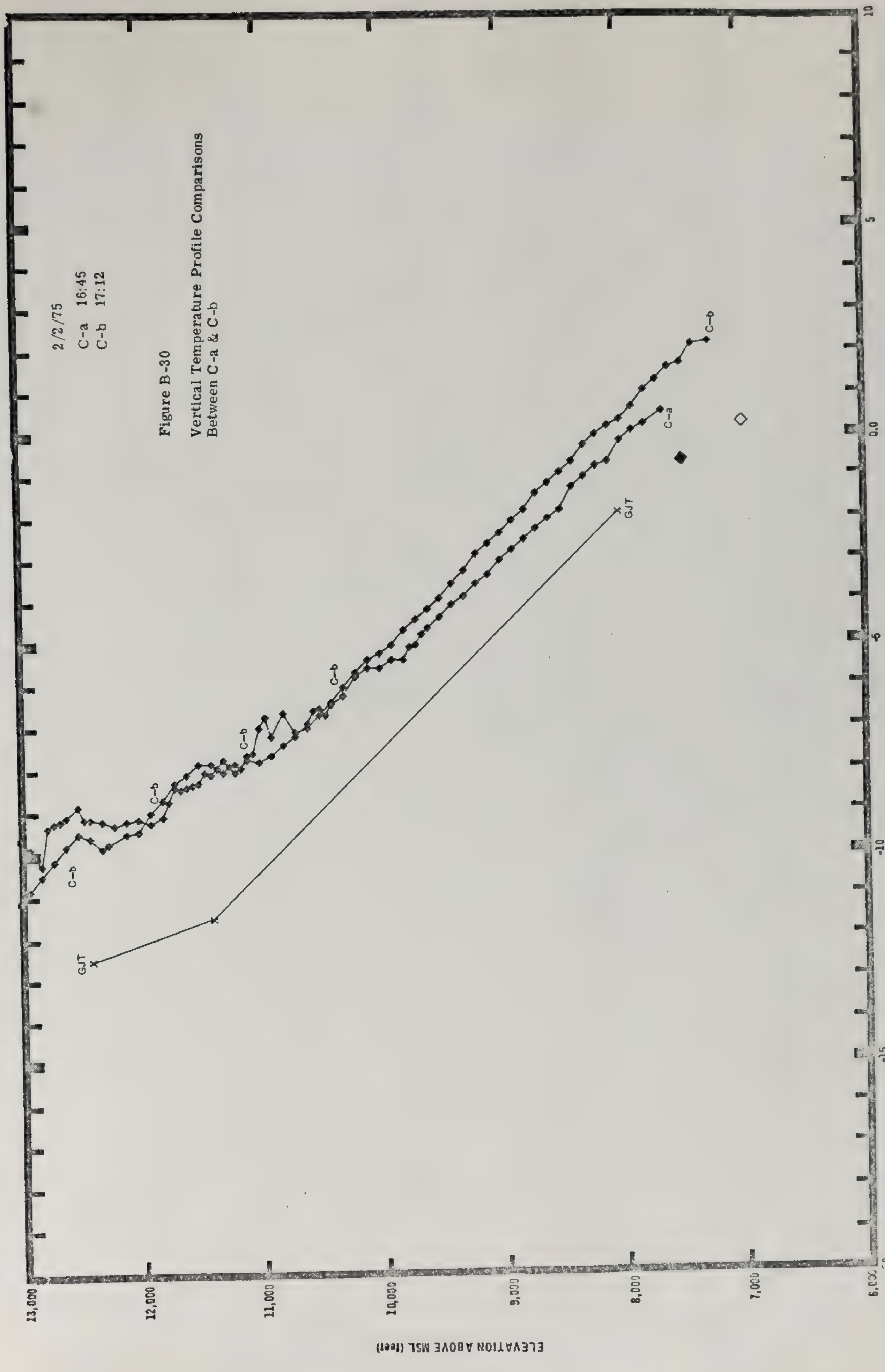


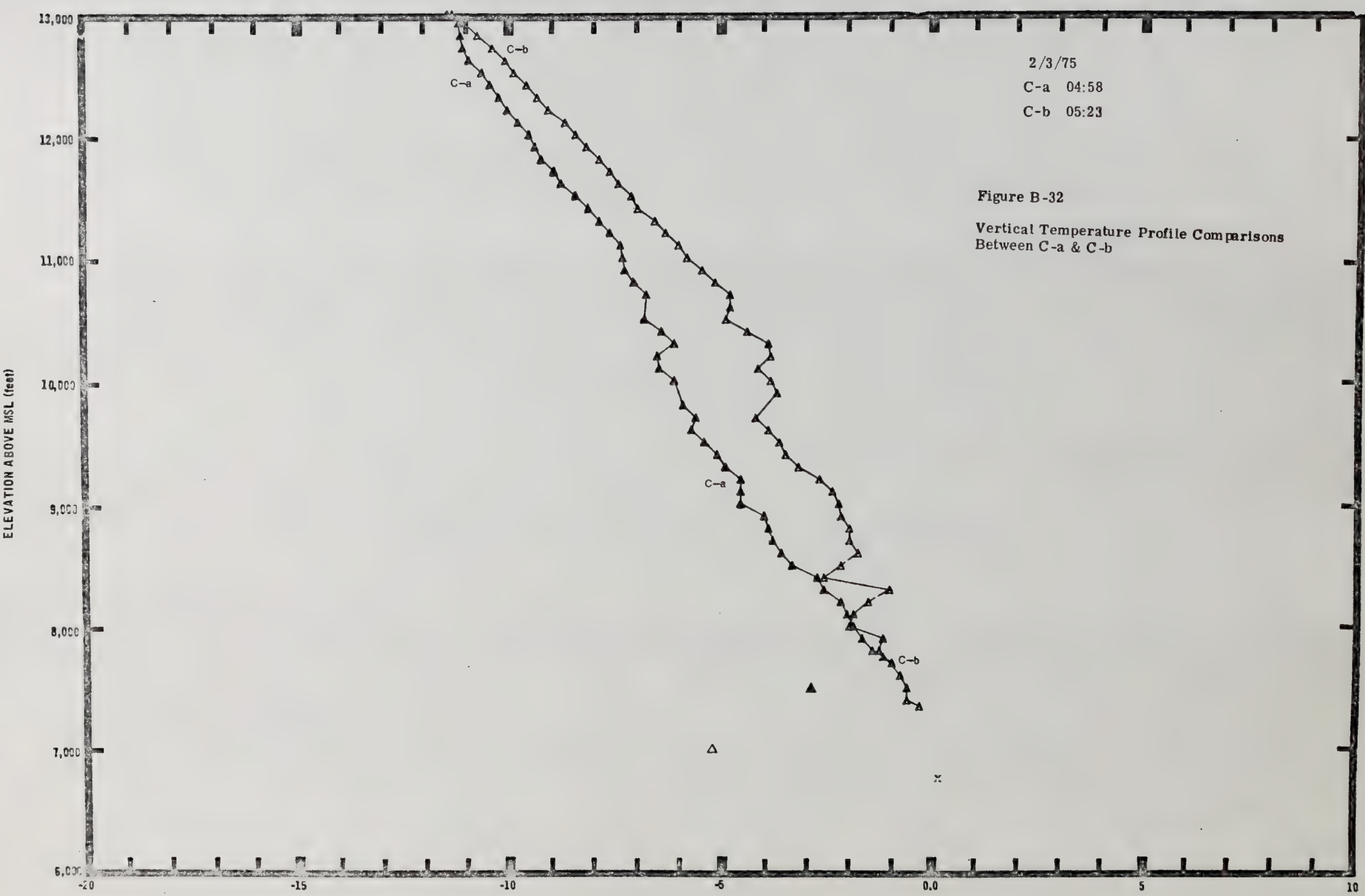
Figure B-30

Vertical Temperature Profile Comparisons Between C-a & C-b

2/2/75

C-a 16:45

C-b 17:12



2/3/75
C-a 04:58
C-b 05:23

Figure B-32

Vertical Temperature Profile Comparisons Between C-a & C-b

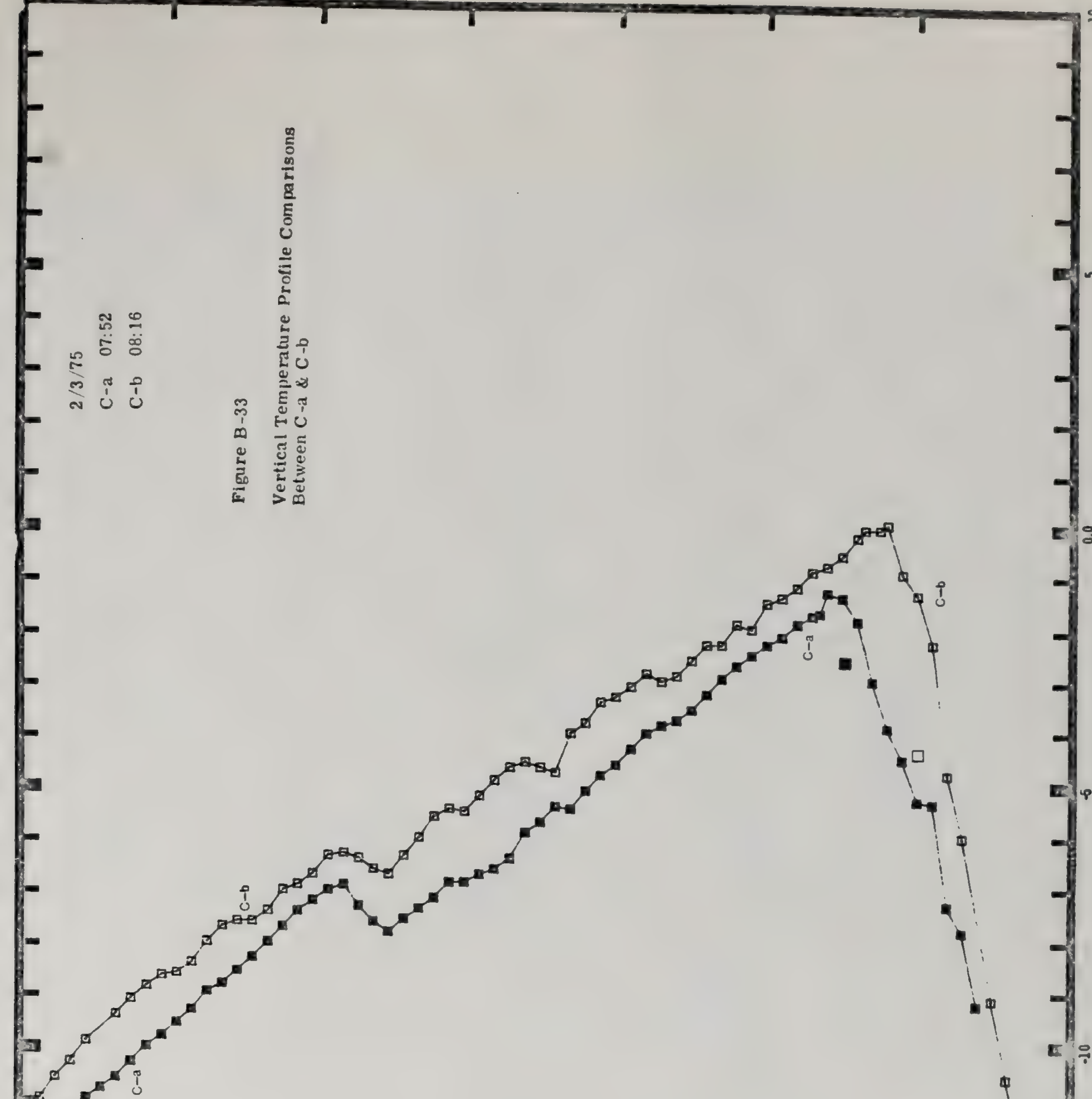

2/3/75
C-a 07:52
C-b 08:16

Figure B-33

Vertical Temperature Profile Comparisons
Between C-a & C-b

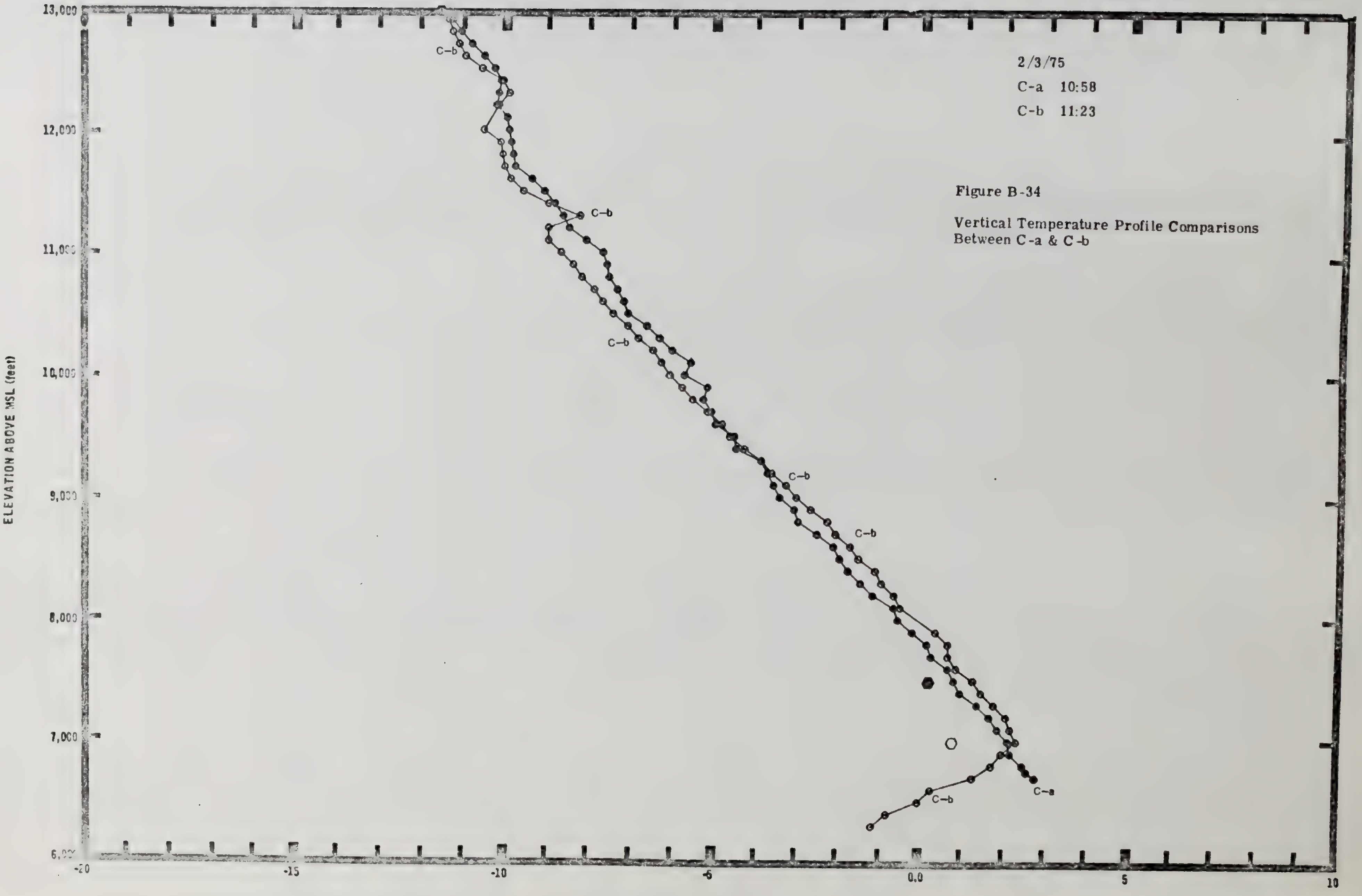
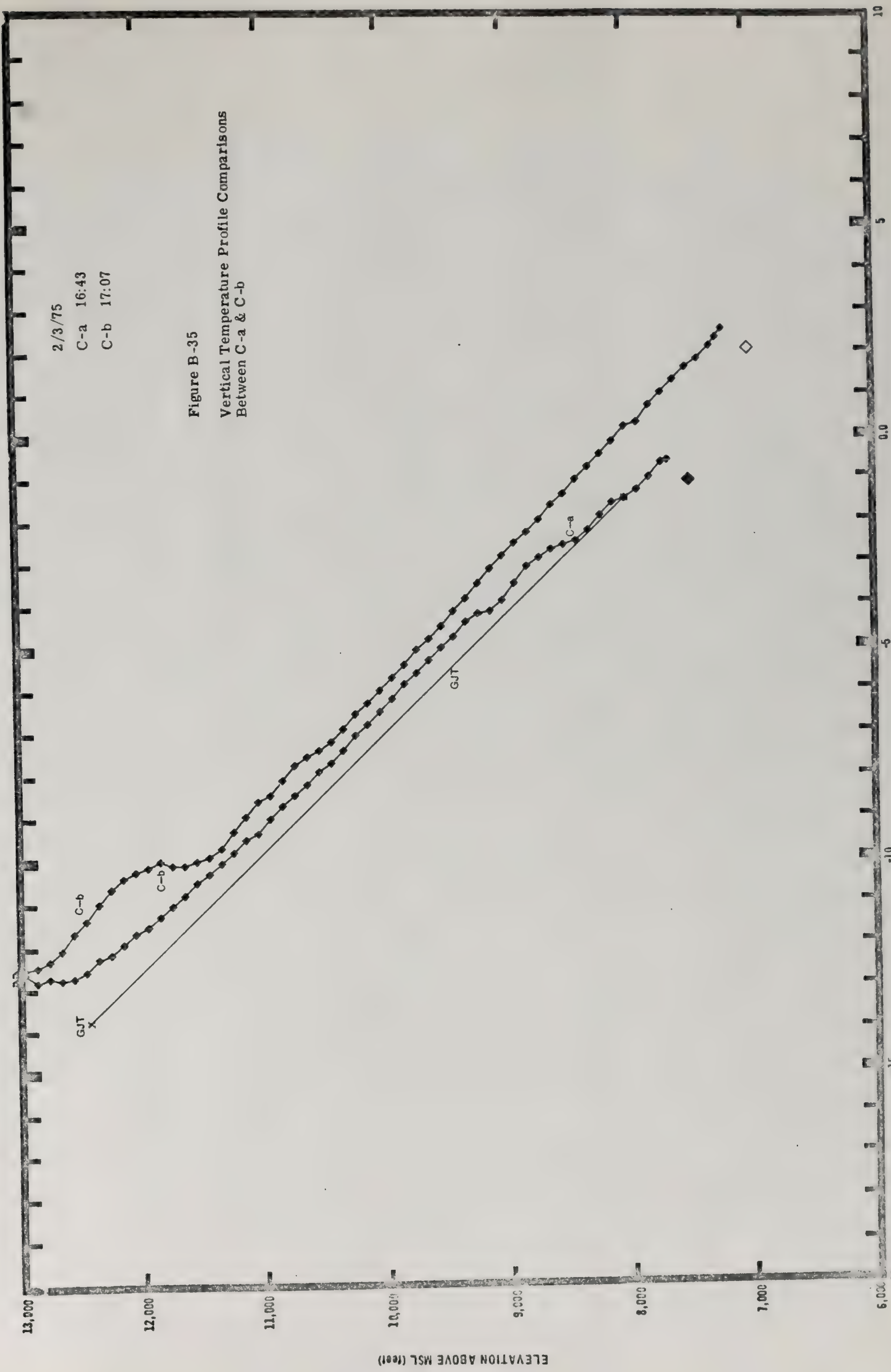


Figure B-34

Vertical Temperature Profile Comparisons Between C-a & C-b



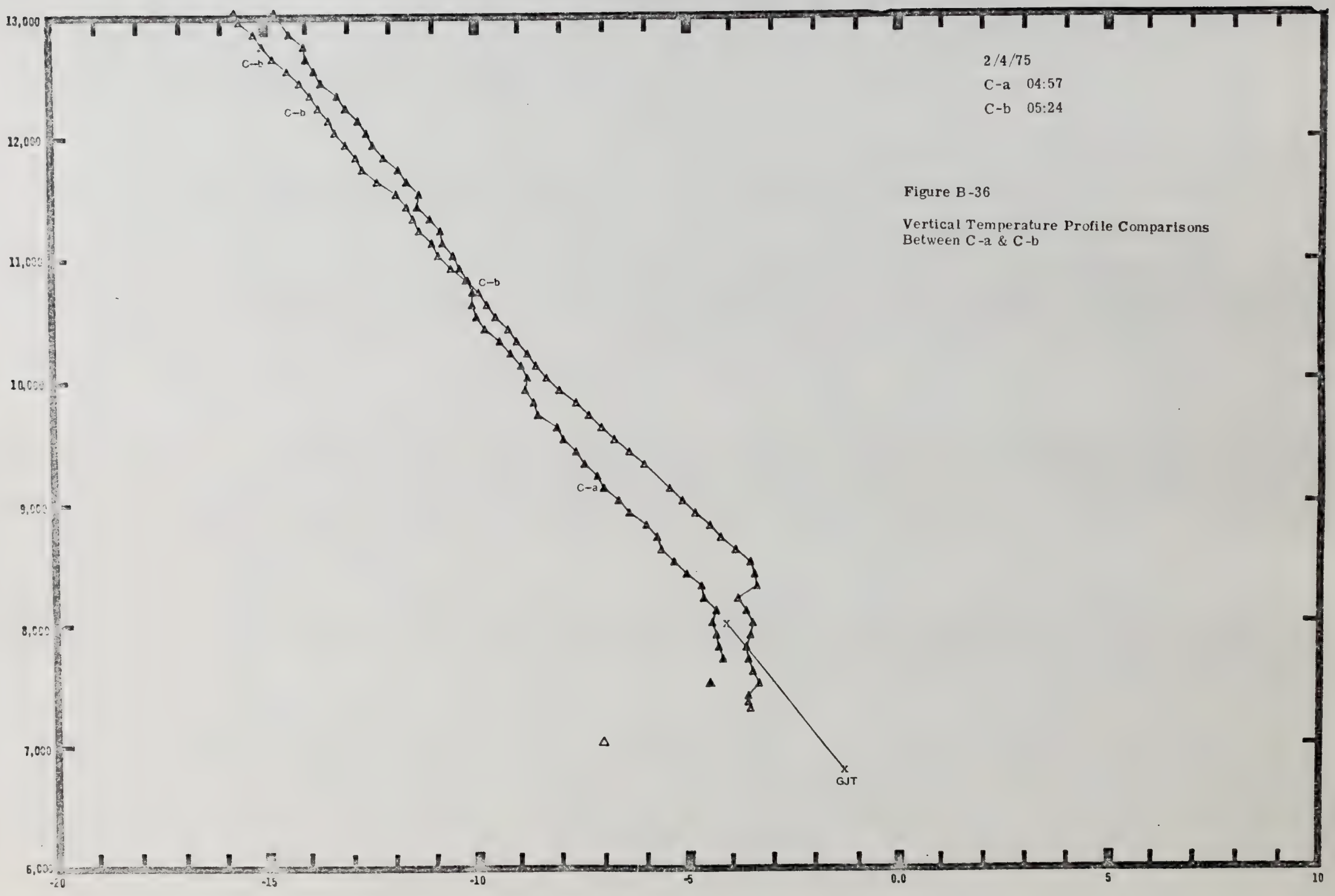
2/3/75

C-a 16:43

C-b 17:07

Figure B-35

Vertical Temperature Profile Comparisons Between C-a & C-b



2/4/75
C-a 04:57
C-b 05:24

Figure B-36

Vertical Temperature Profile Comparisons
Between C-a & C-b

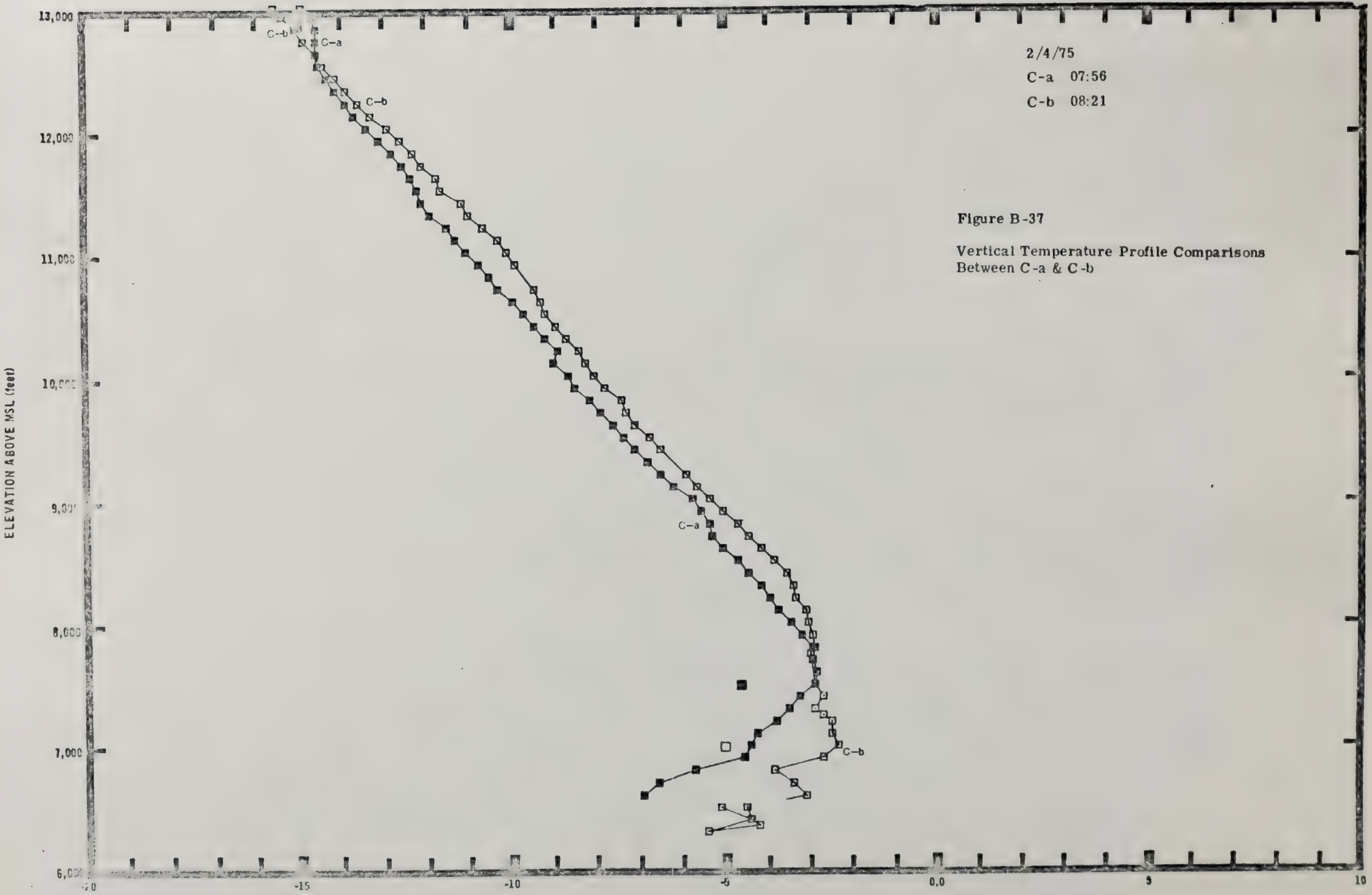


Figure B-37

Vertical Temperature Profile Comparisons Between C-a & C-b

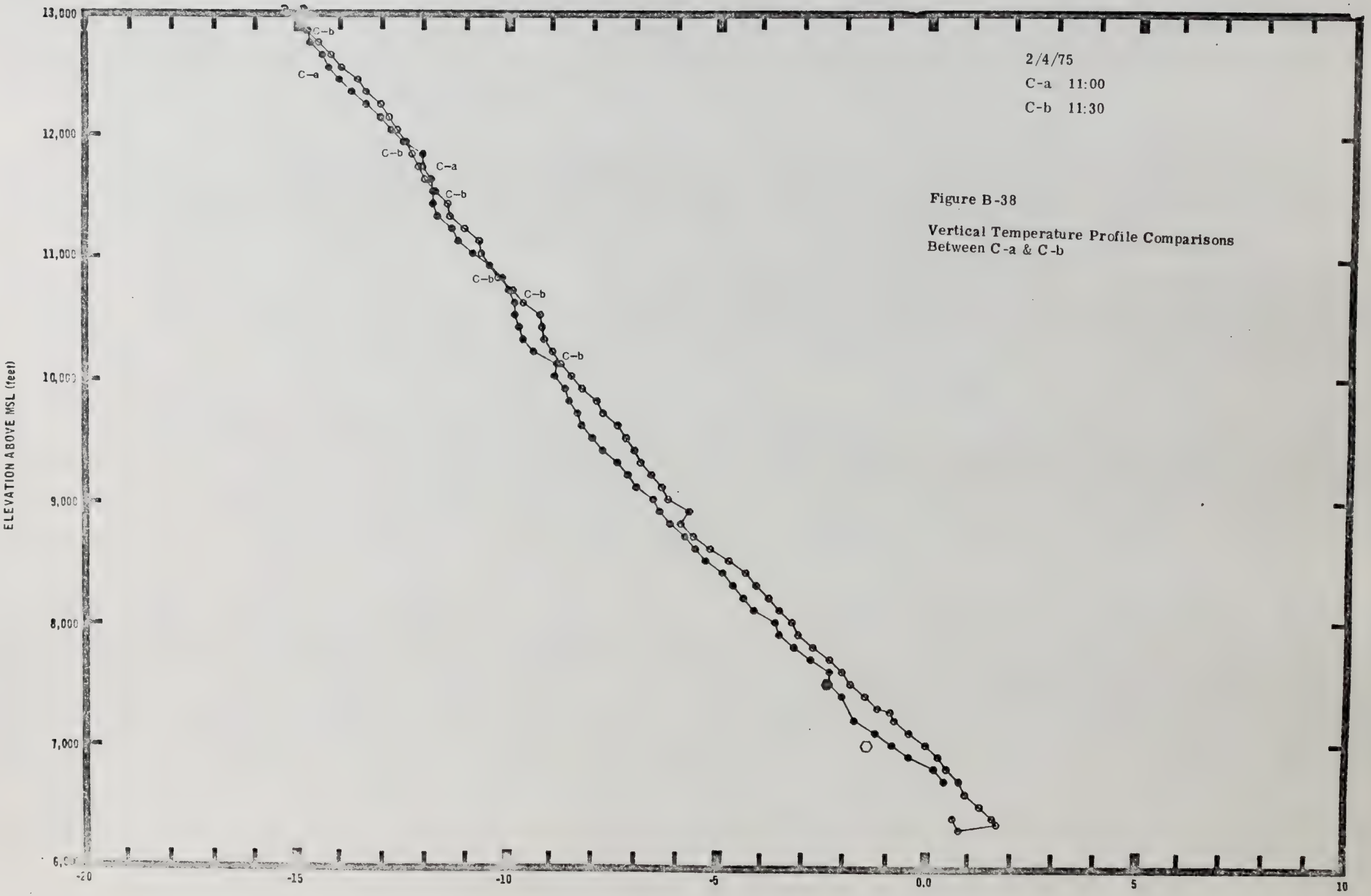


Figure B-38

Vertical Temperature Profile Comparisons
Between C-a & C-b

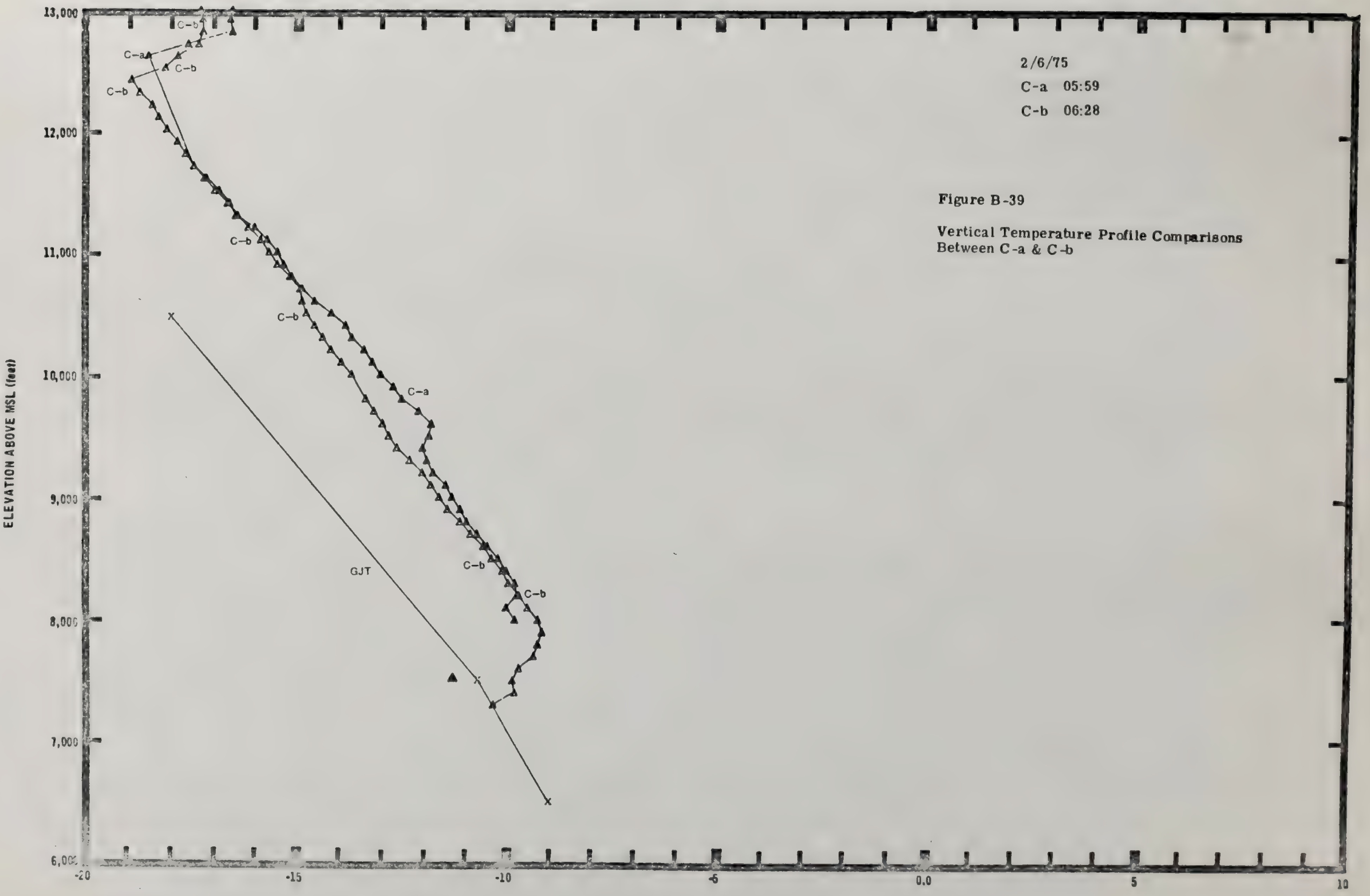
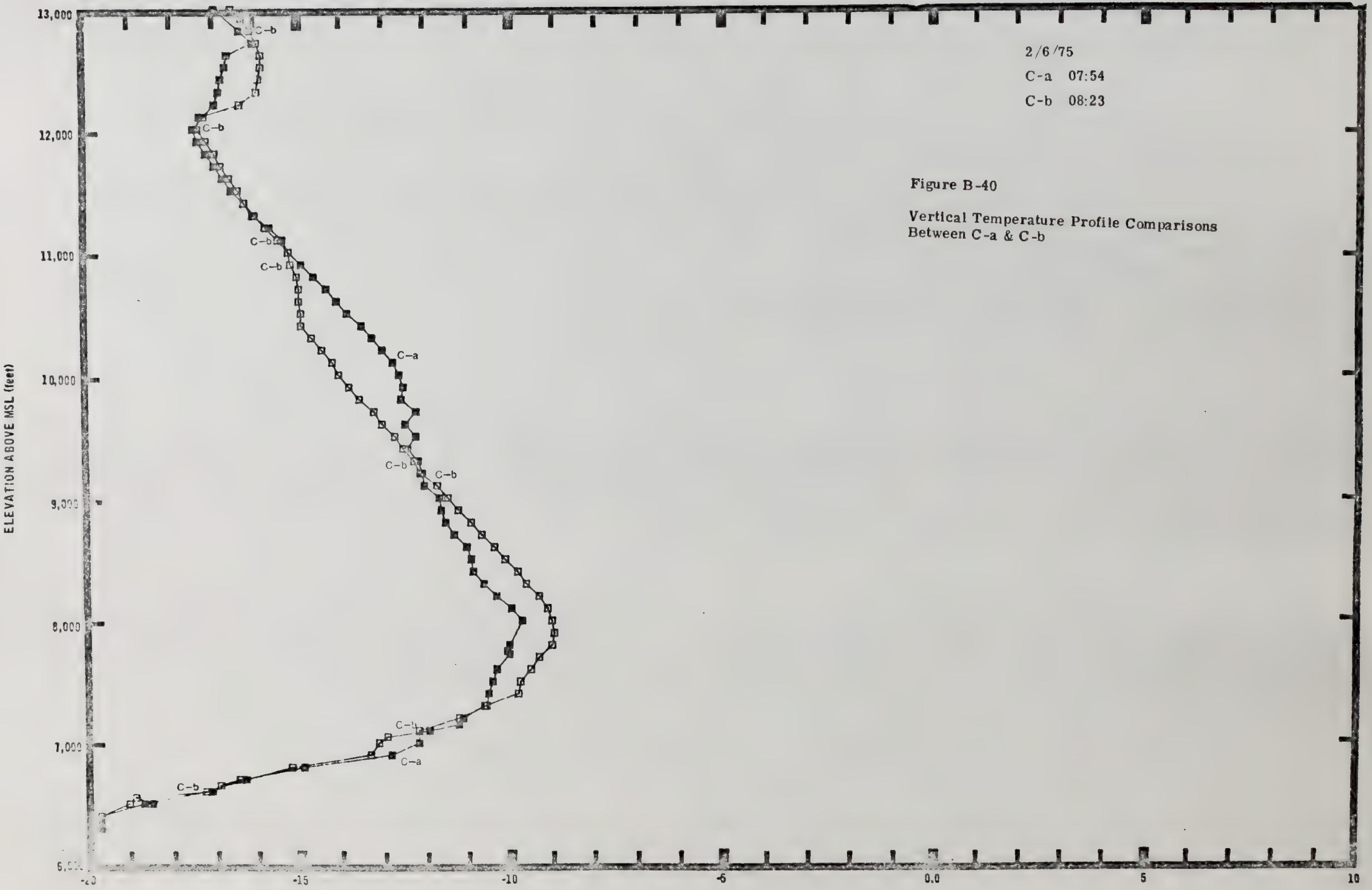


Figure B-39

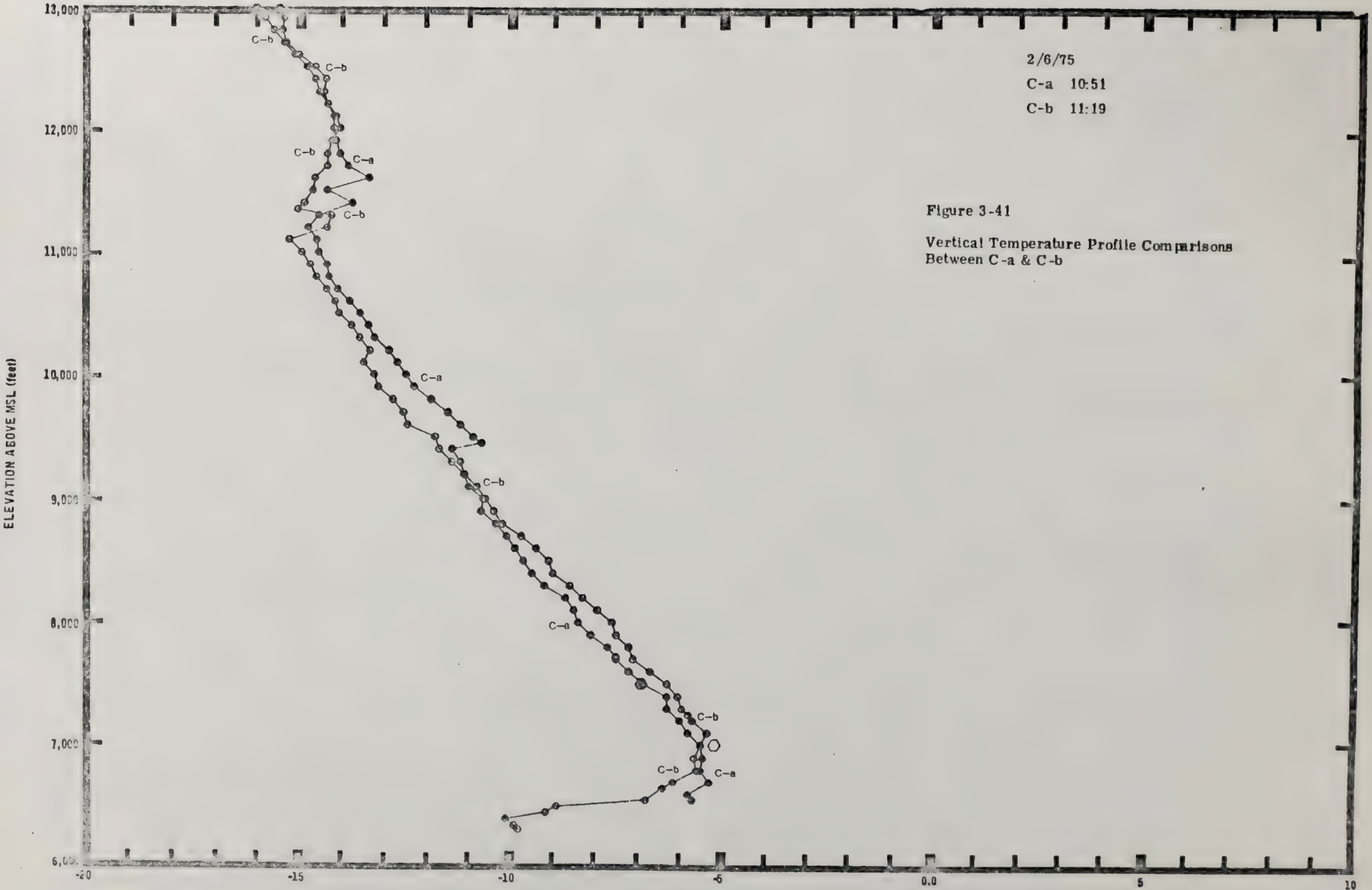
Vertical Temperature Profile Comparisons
Between C-a & C-b



2/6/75
C-a 07:54
C-b 08:23

Figure B-40

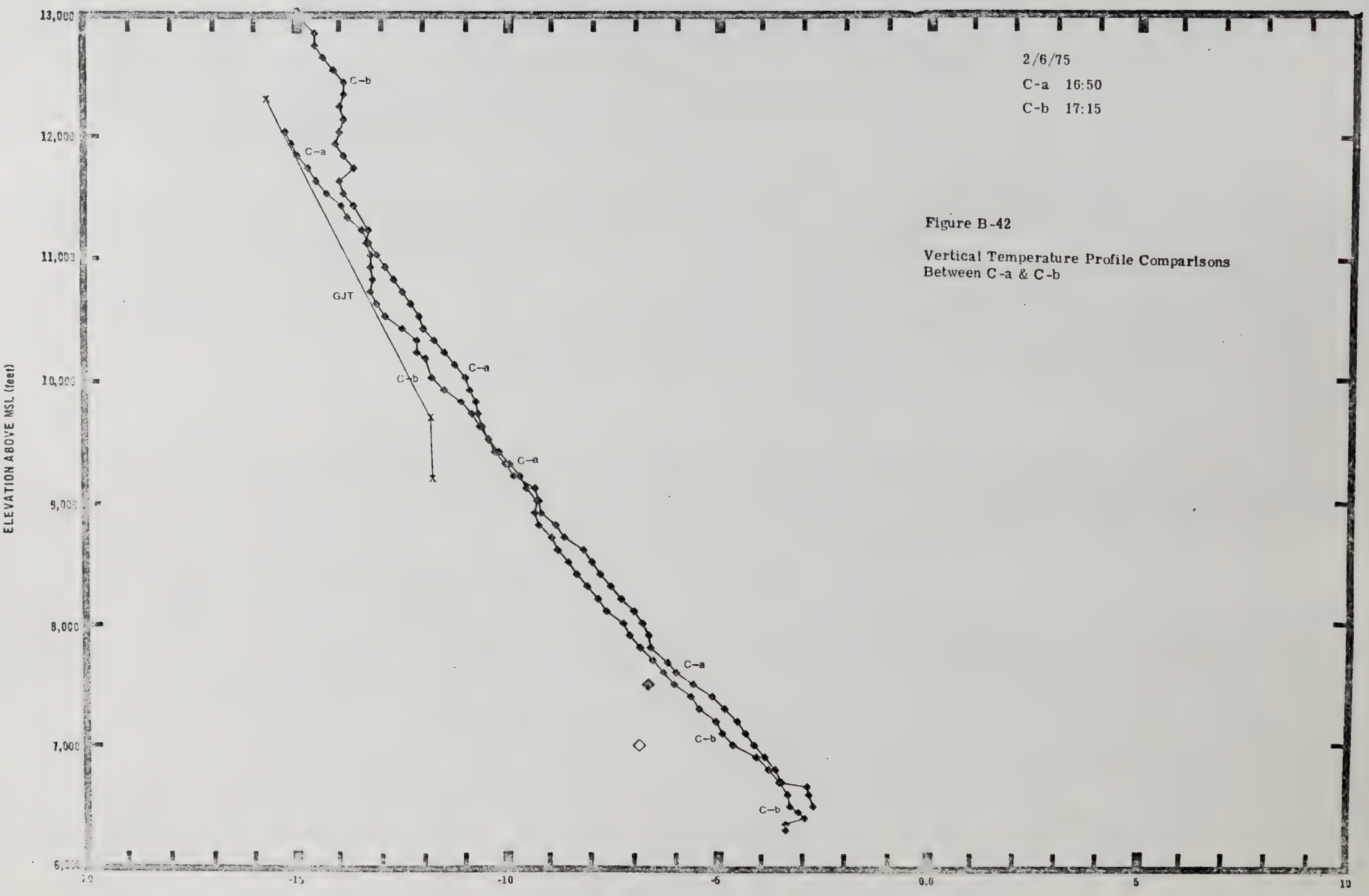
Vertical Temperature Profile Comparisons
Between C-a & C-b



2/6/75
C-a 10:51
C-b 11:19

Figure 3-41

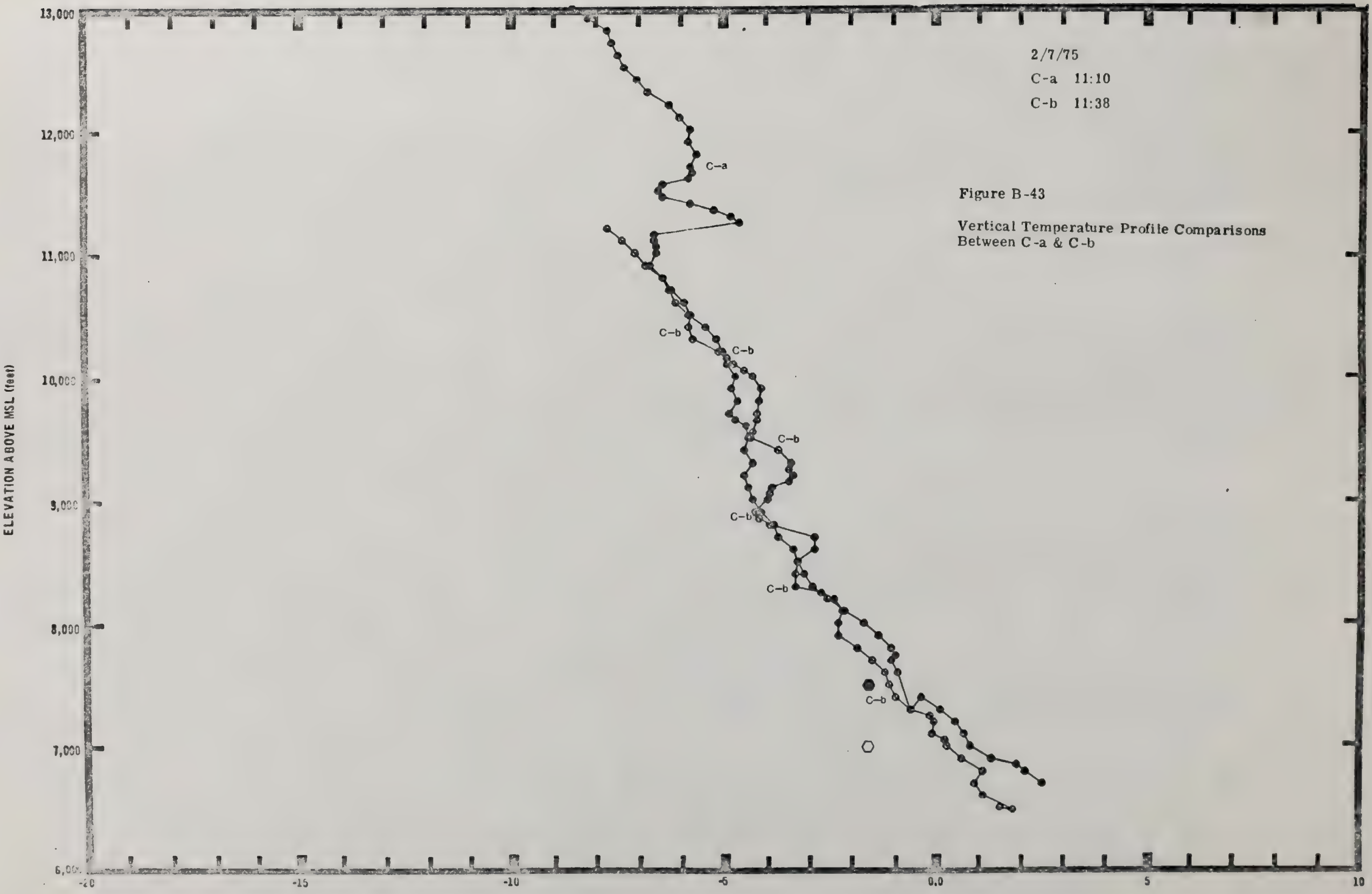
Vertical Temperature Profile Comparisons
Between C-a & C-b



2/6/75
C-a 16:50
C-b 17:15

Figure B-42

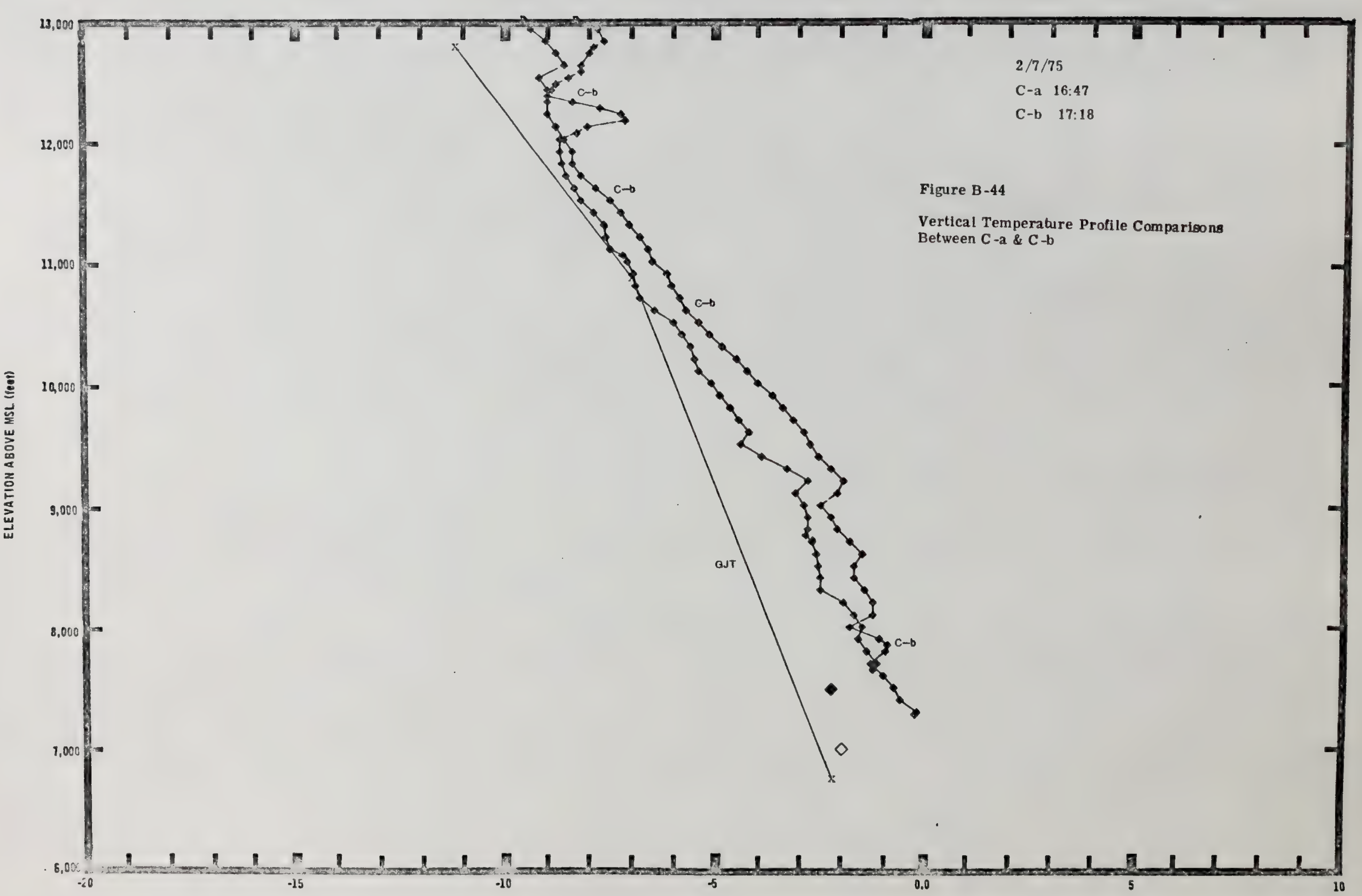
Vertical Temperature Profile Comparisons
Between C-a & C-b



2/7/75
C-a 11:10
C-b 11:38

Figure B-43

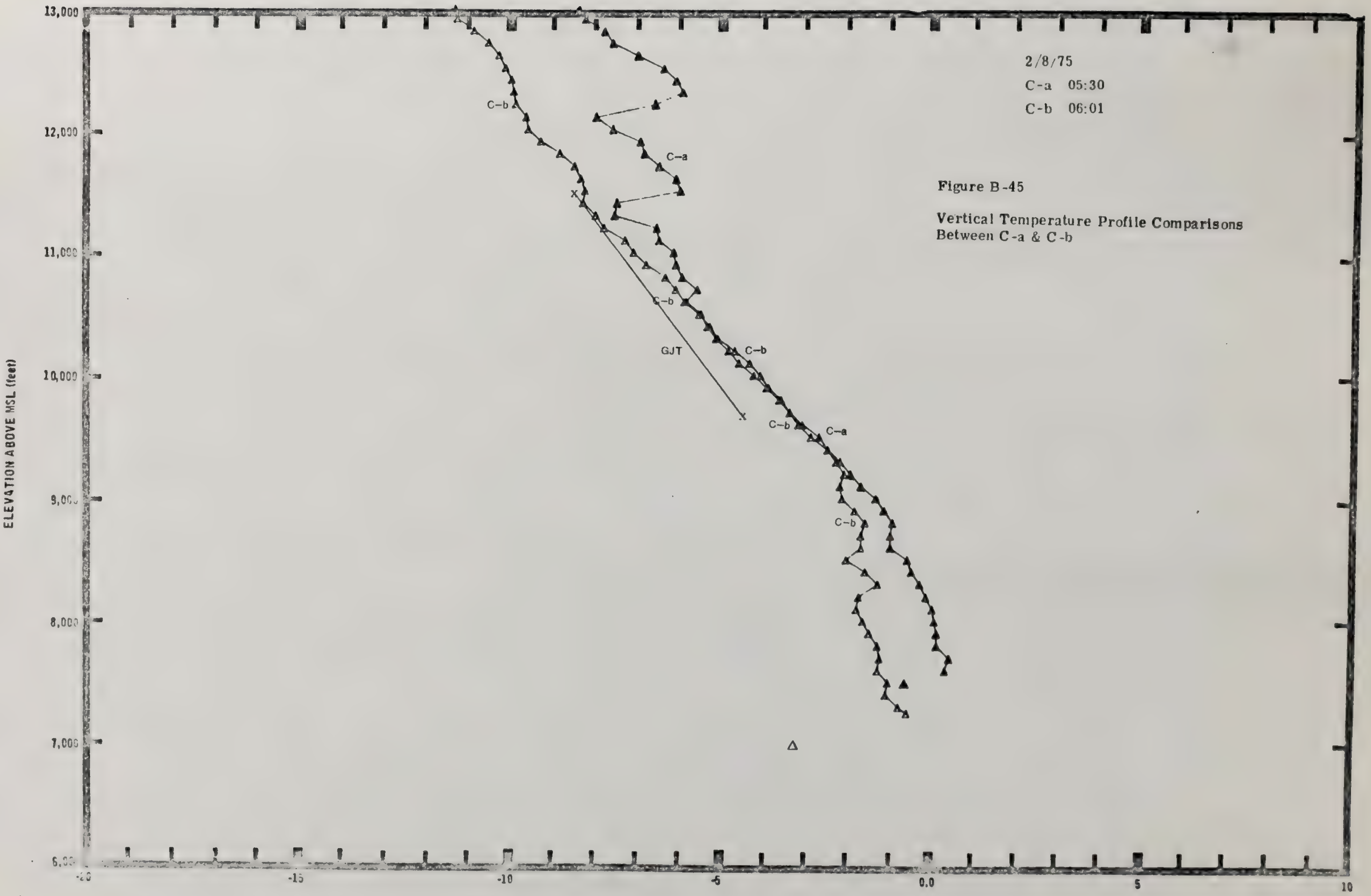
Vertical Temperature Profile Comparisons Between C-a & C-b



2/7/75
C-a 16:47
C-b 17:18

Figure B-44

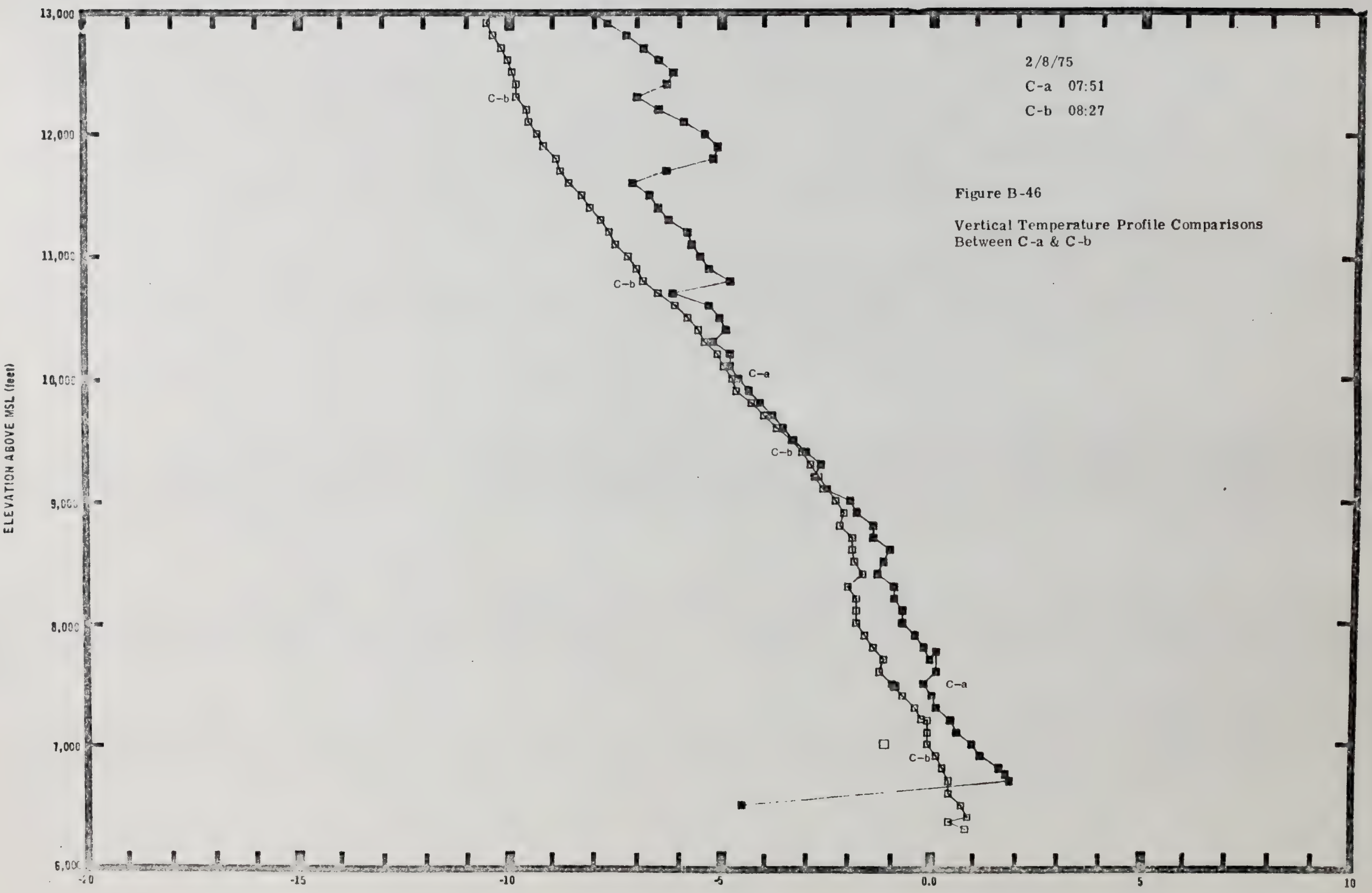
Vertical Temperature Profile Comparisons
Between C-a & C-b



2/8/75
C-a 05:30
C-b 06:01

Figure B-45

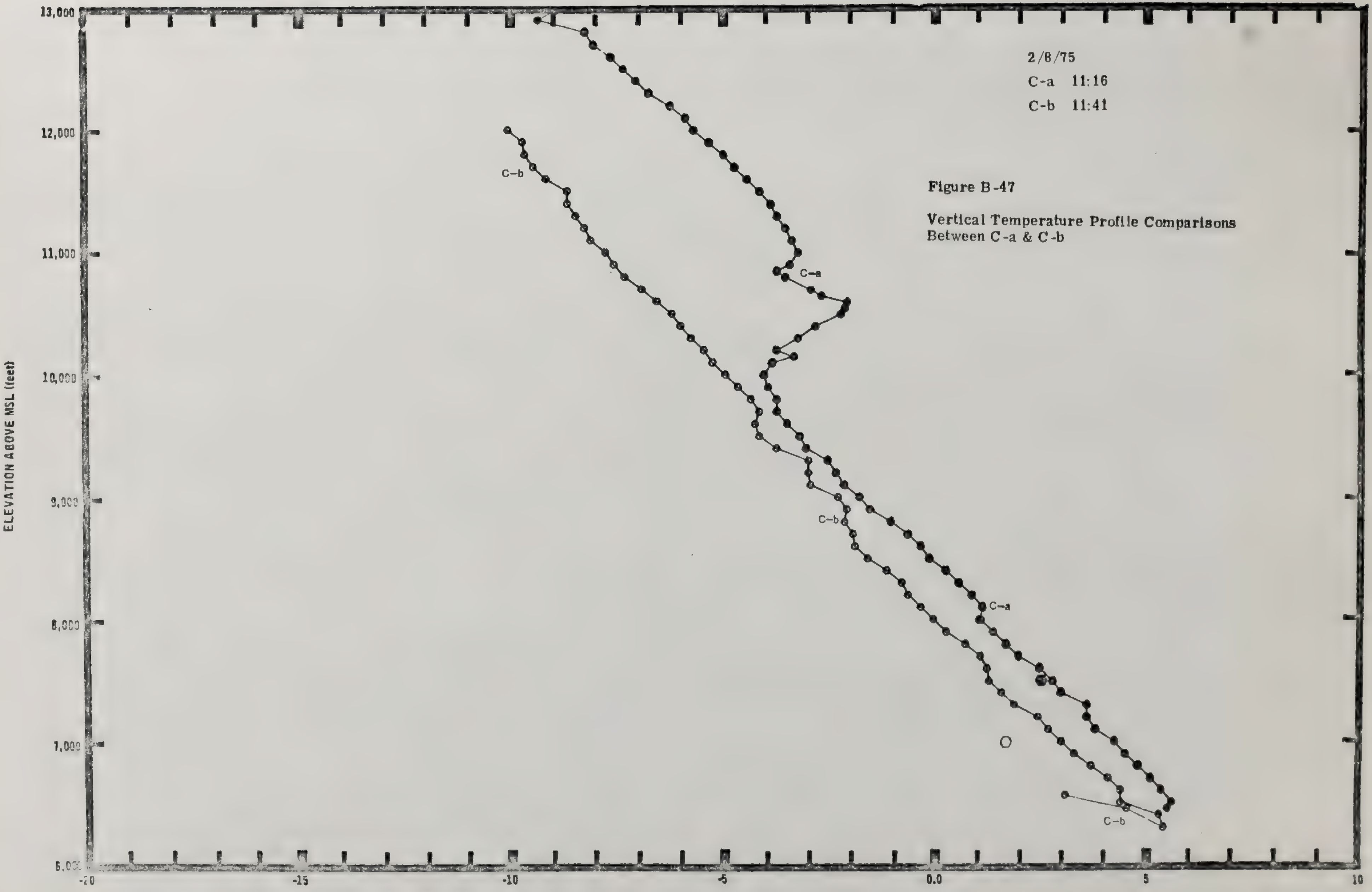
Vertical Temperature Profile Comparisons Between C-a & C-b



2/8/75
C-a 07:51
C-b 08:27

Figure B-46

Vertical Temperature Profile Comparisons
Between C-a & C-b



2/8/75
C-a 11:16
C-b 11:41

Figure B-47

Vertical Temperature Profile Comparisons Between C-a & C-b

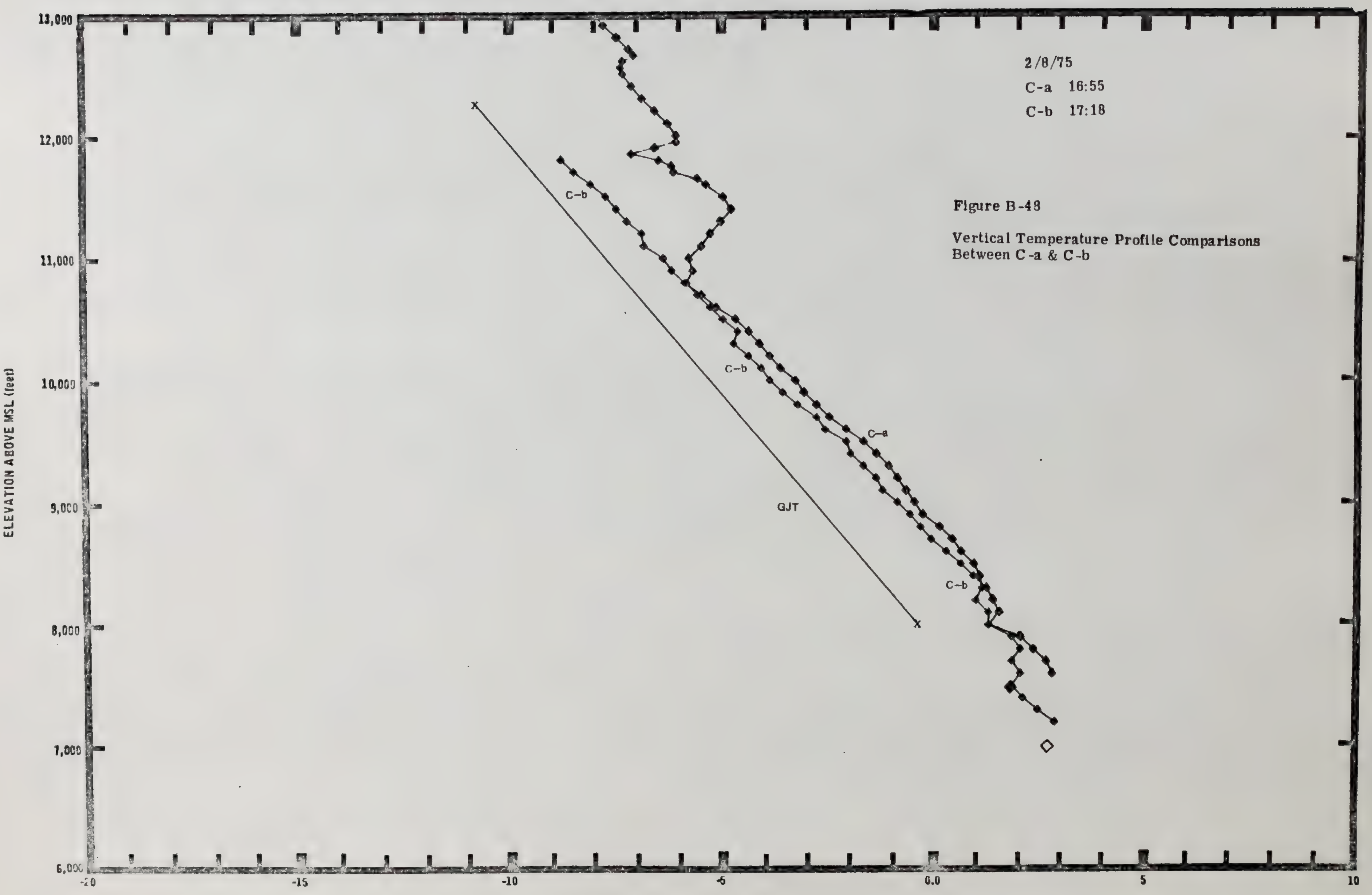


Figure B-48

Vertical Temperature Profile Comparisons Between C-a & C-b

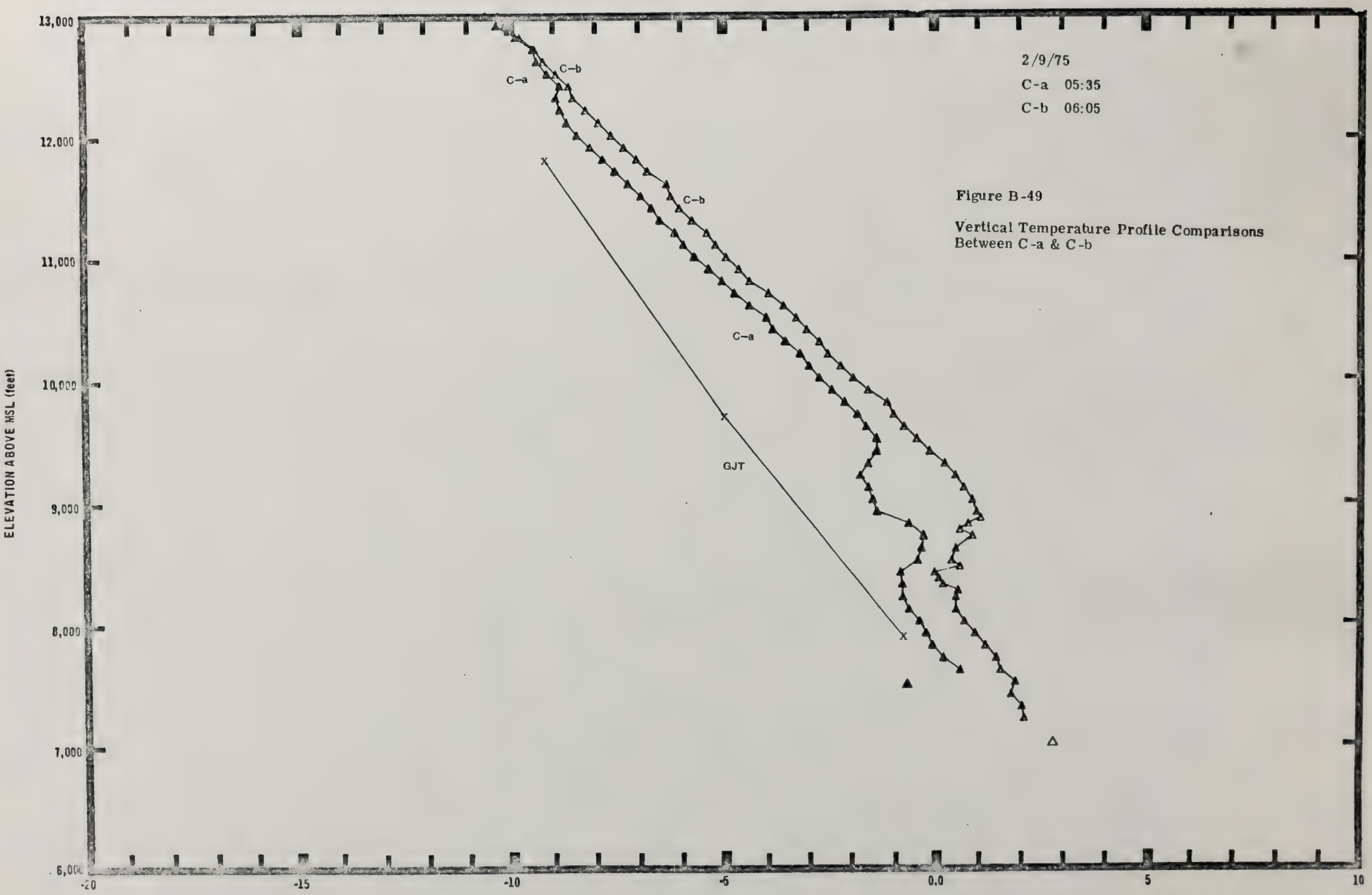


Figure B-49

Vertical Temperature Profile Comparisons
Between C-a & C-b

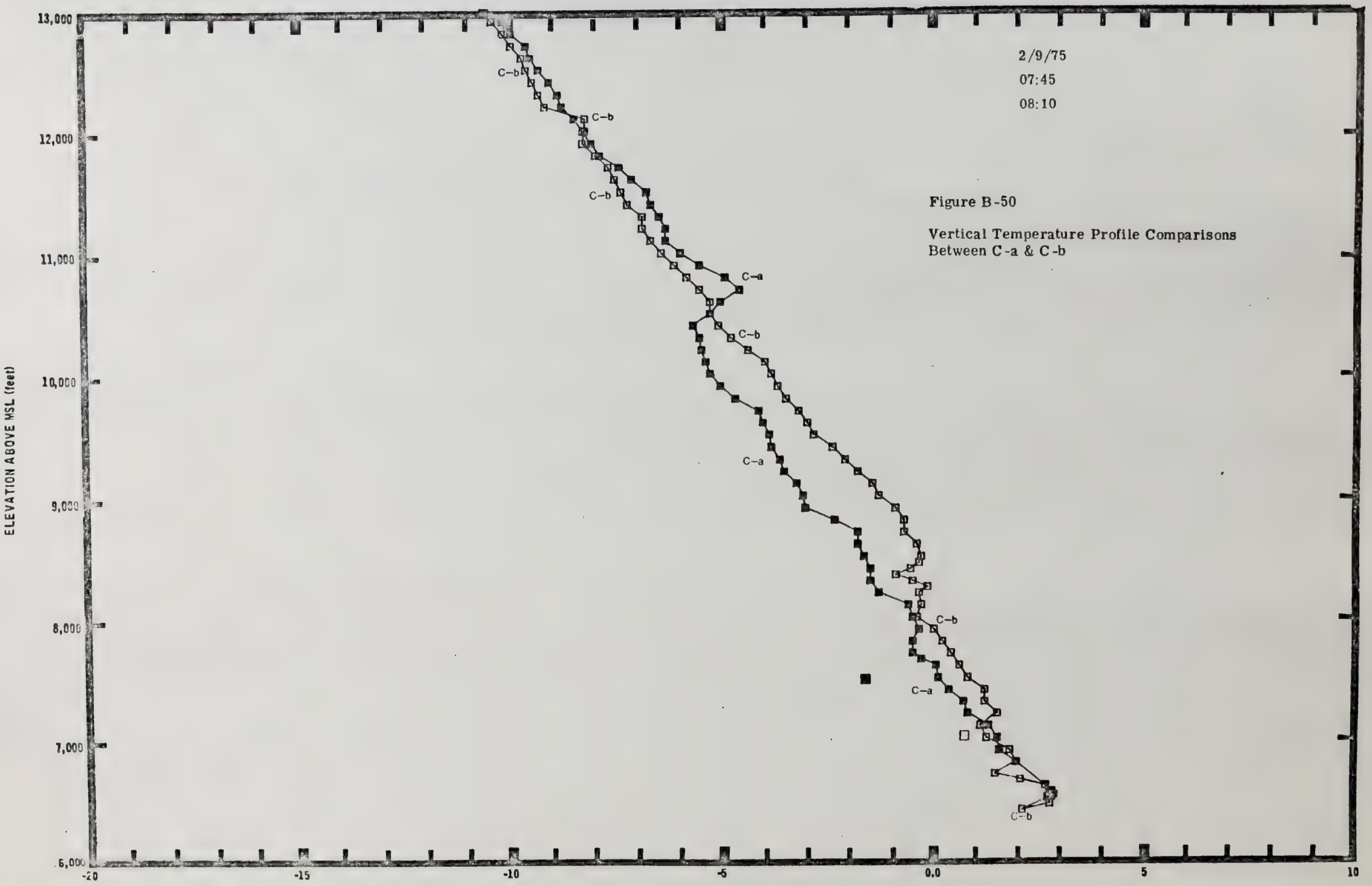


Figure B-50

Vertical Temperature Profile Comparisons
Between C-a & C-b

APPENDIX C

Pilot Balloon Sounding Comparisons between Federal Oil Shale Tracts C-a and C-b During the Period 20 January through 9 February 1975

Numbers alongside the points represent the calculated height of the balloon above the surface at that point in hundreds of feet. Other non-labelled heights can be determined given that each continuous point is 300 feet vertically displaced from its nearest neighbors. Where data is missing, no point was plotted, but the line was interrupted to denote that data was missing. In all soundings presented in this appendix, the following point symbology is adhered to:

△	Flight Number 1	nominally	0500 MST
□	Flight Number 2	nominally	0800 MST
⬡	Flight Number 3	nominally	1100 MST
◇	Flight Number 4	nominally	1700 MST

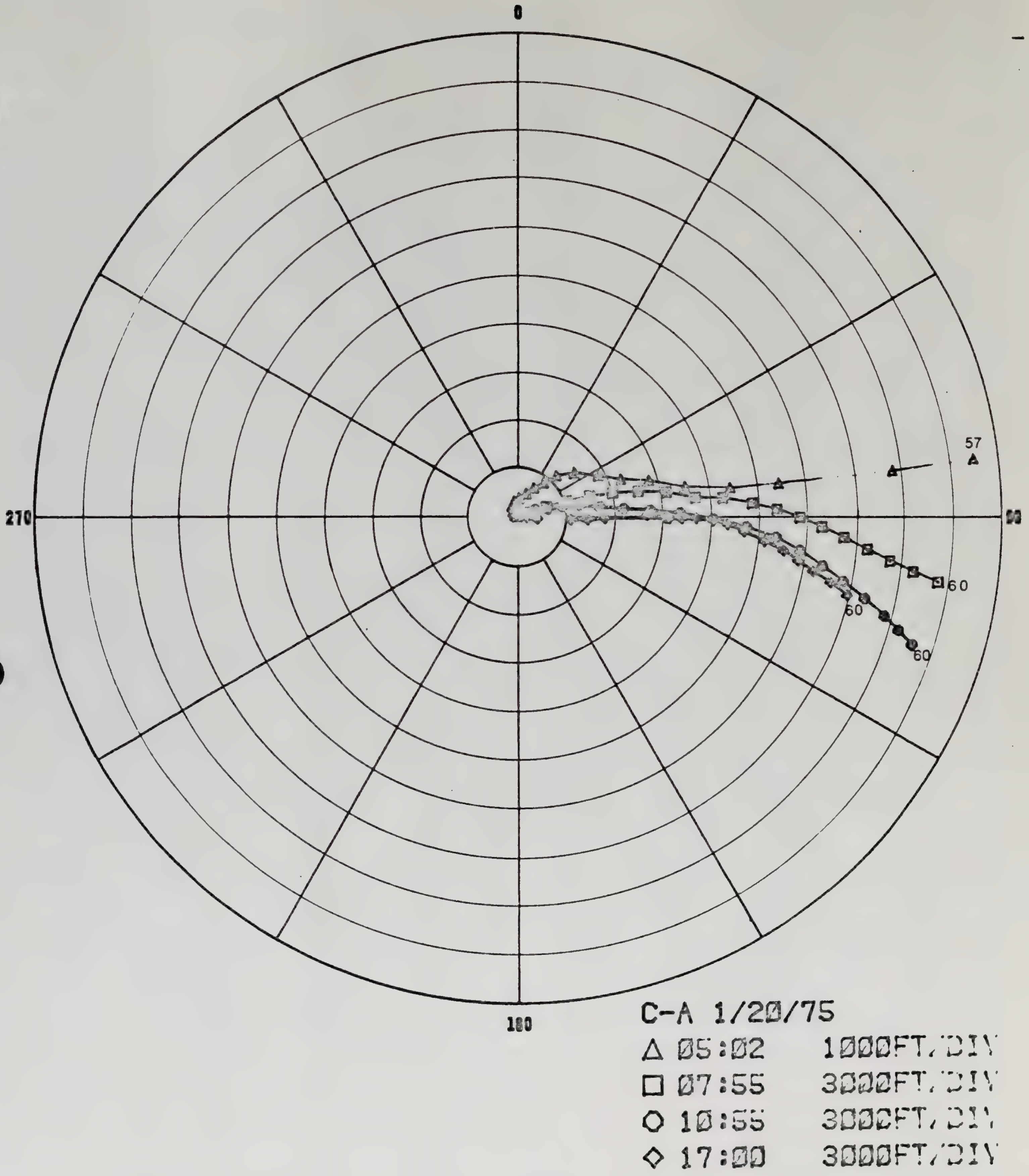


Figure C-1. PIBAL Trajectories over Tract C-a

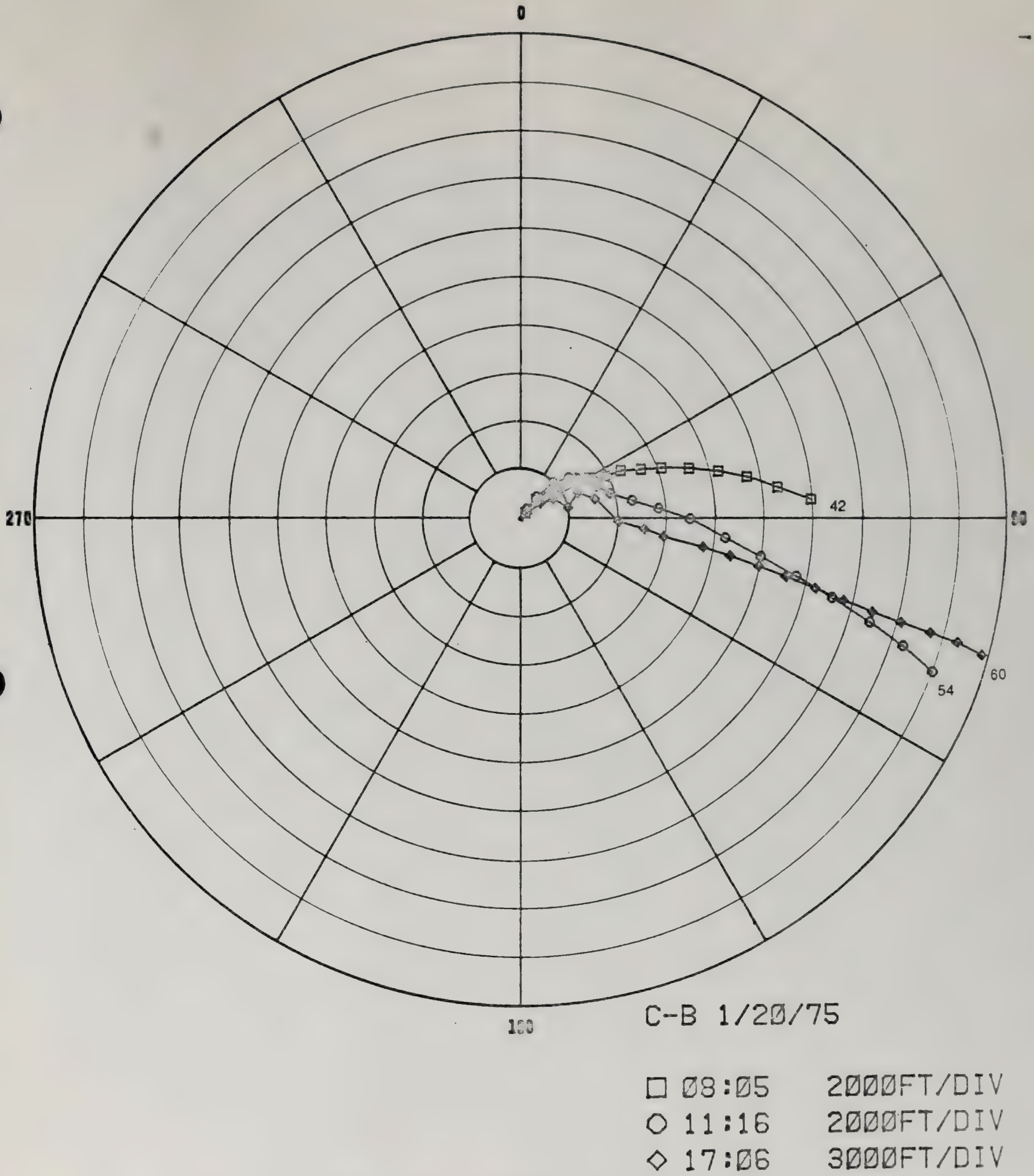


Figure C-1 Pilot Balloon Soundings made over Tract C-b

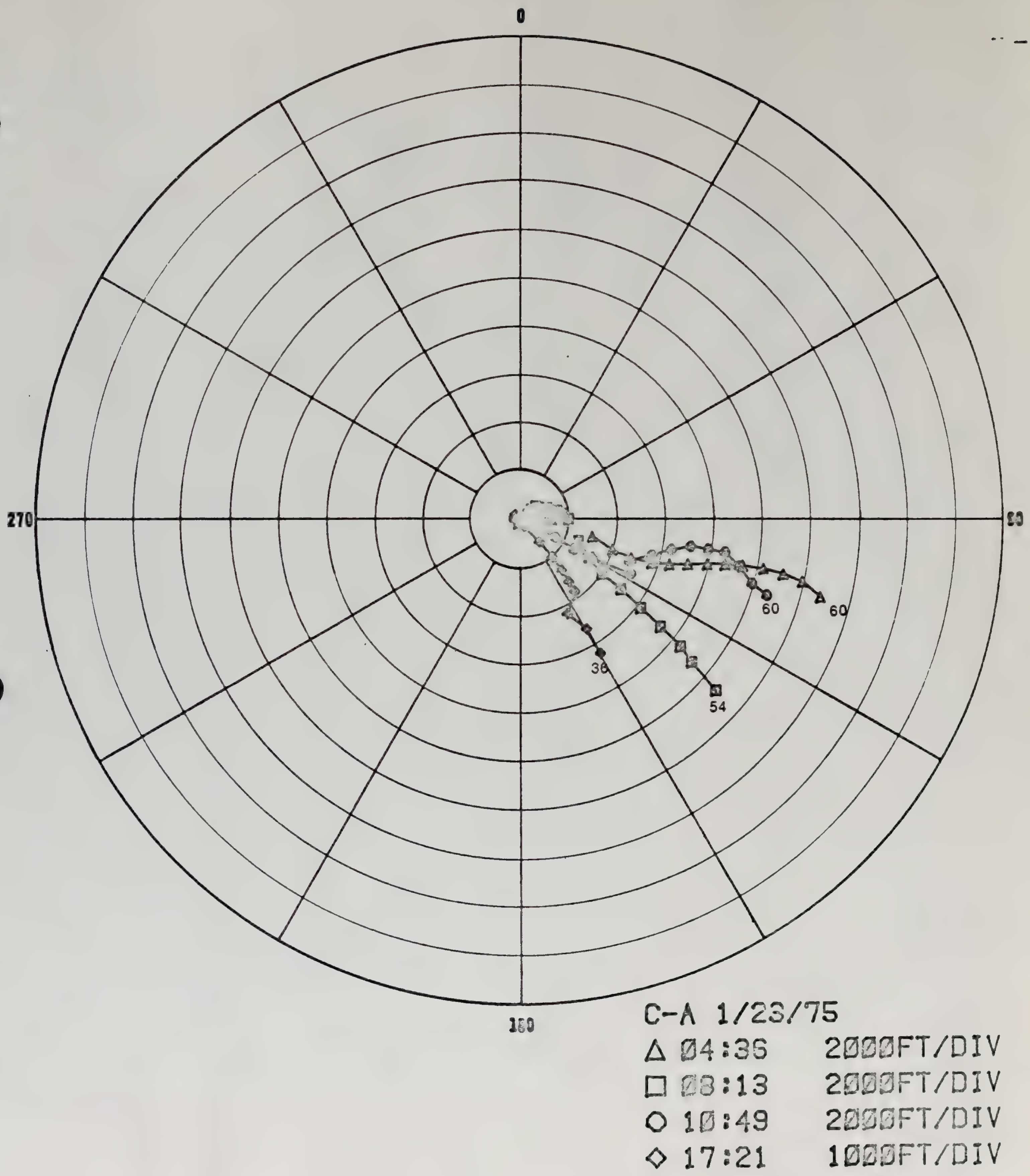


Figure C-2. PIBAL Trajectories over Tract C-a

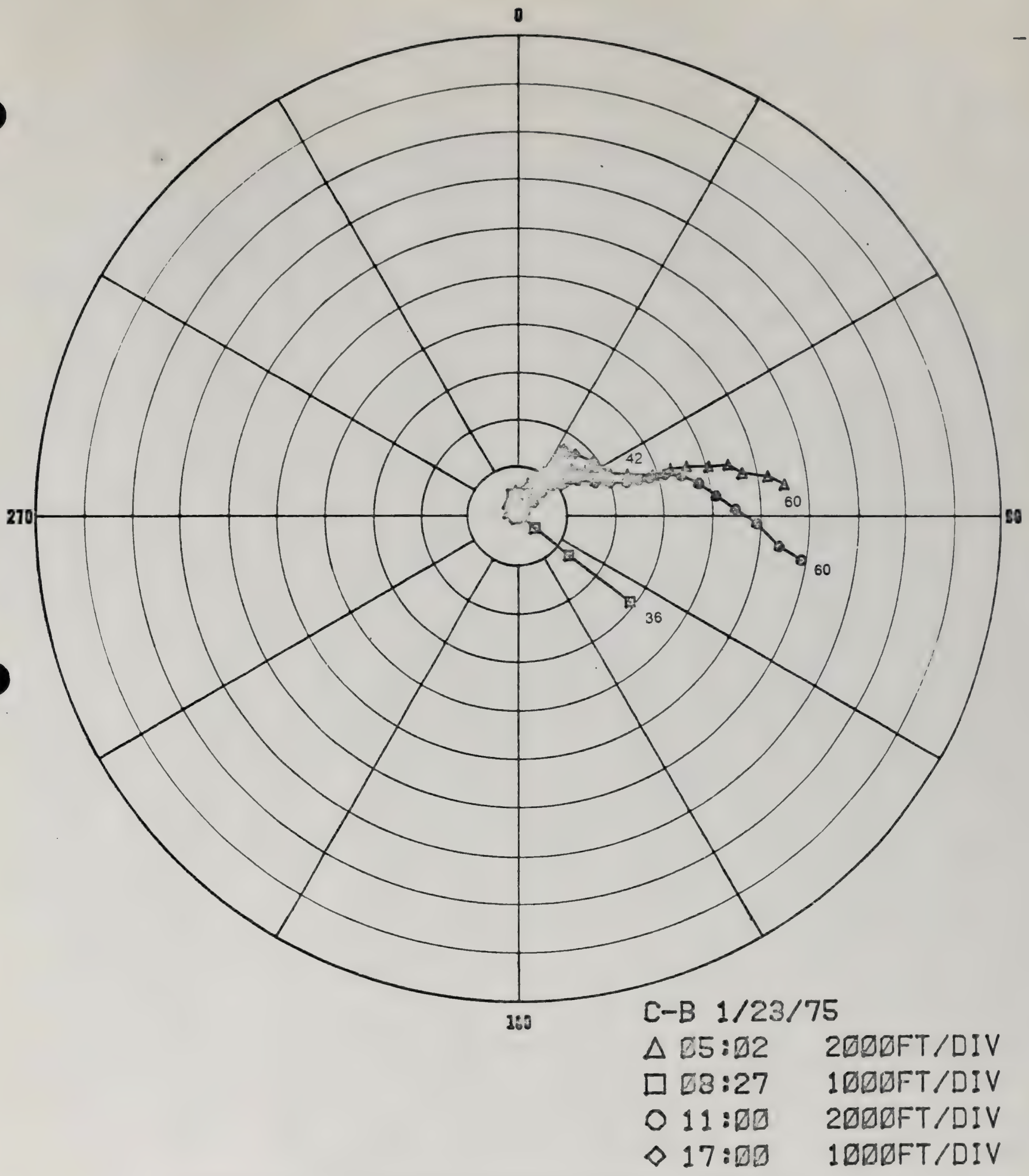


Figure C-2 Pilot Balloon Soundings made over Tract C-b

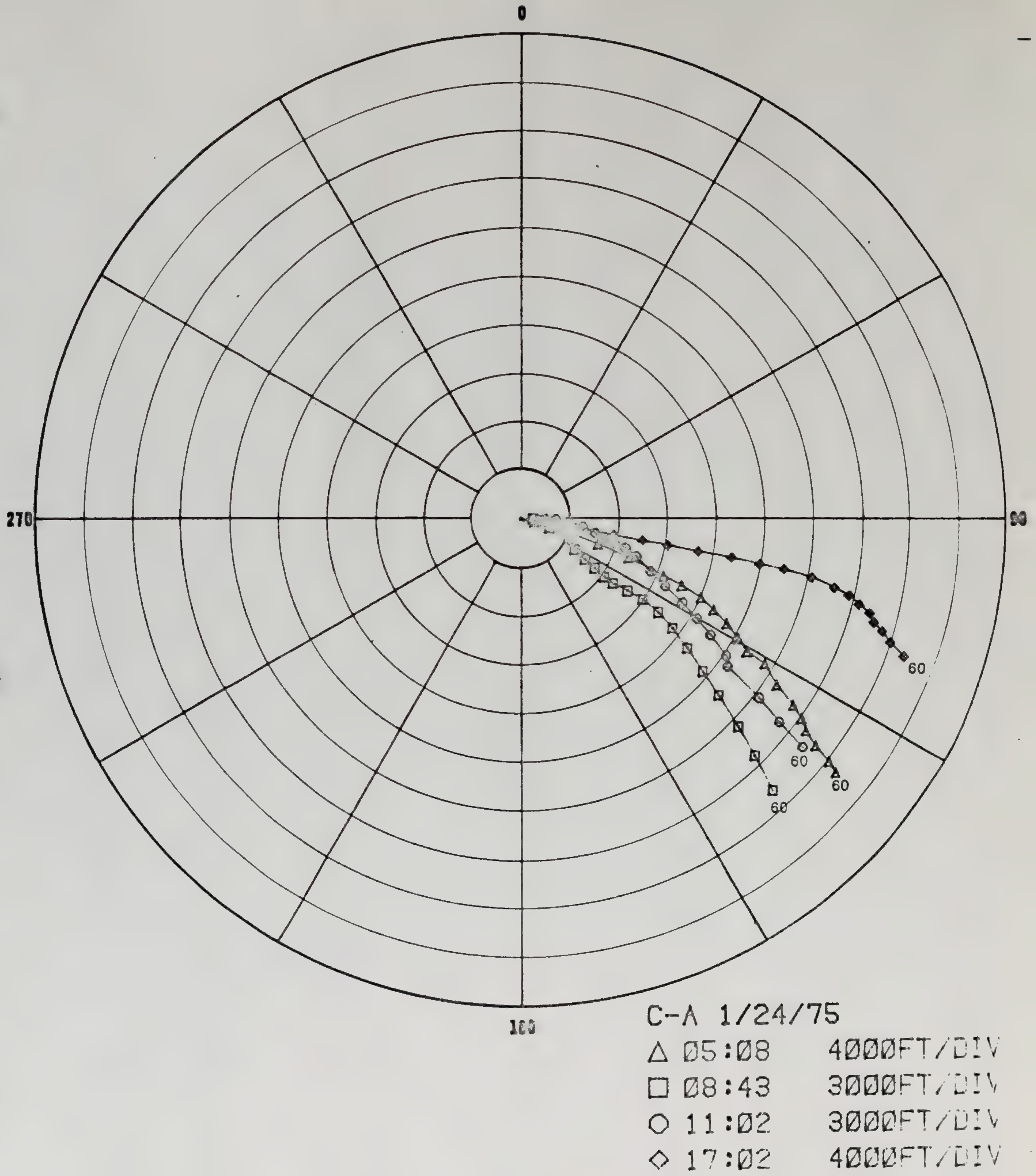


Figure C-3. PIBAL Trajectories over Tract C-a

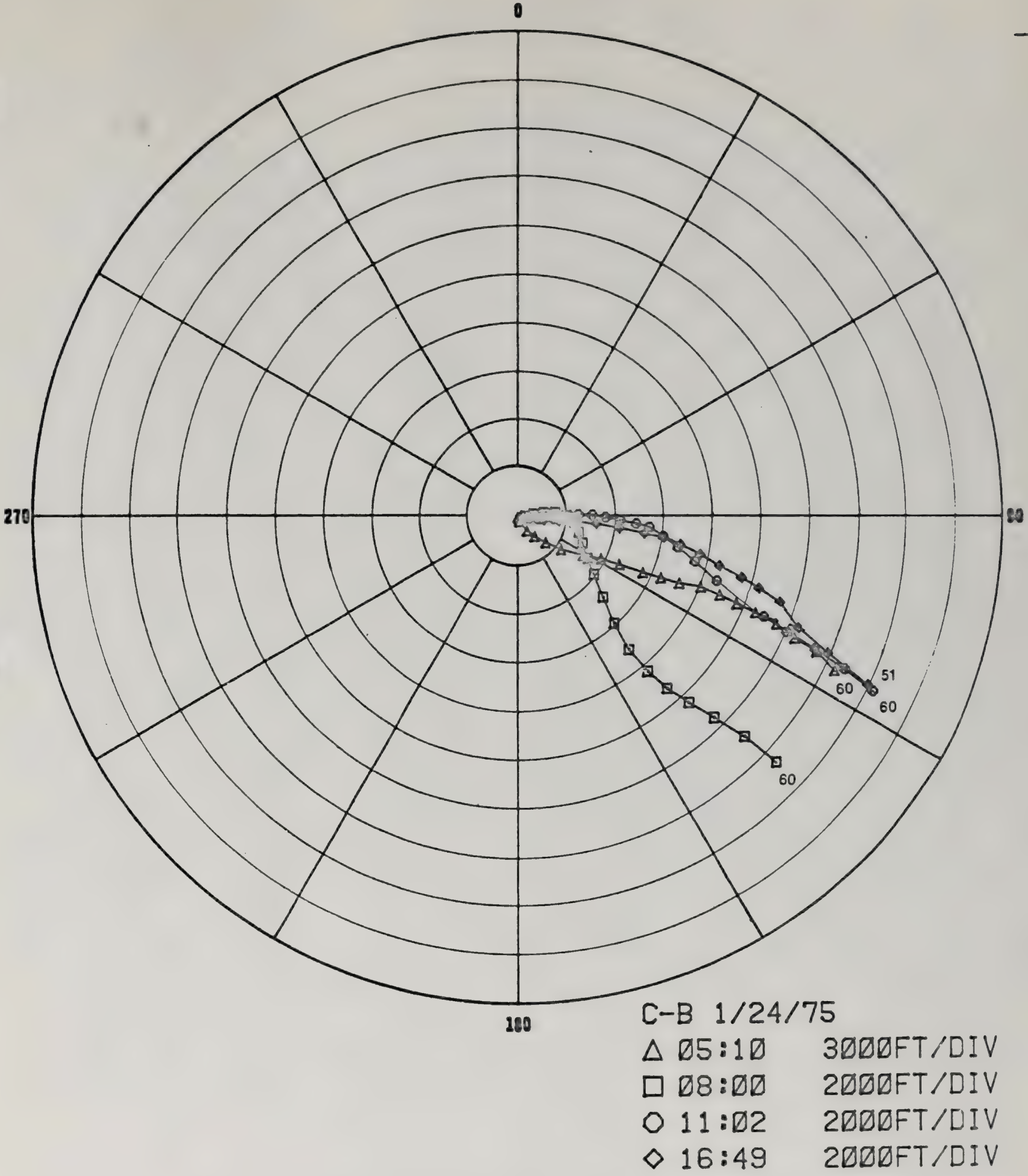


Figure C-3 Pilot Balloon Soundings made over Tract C-b

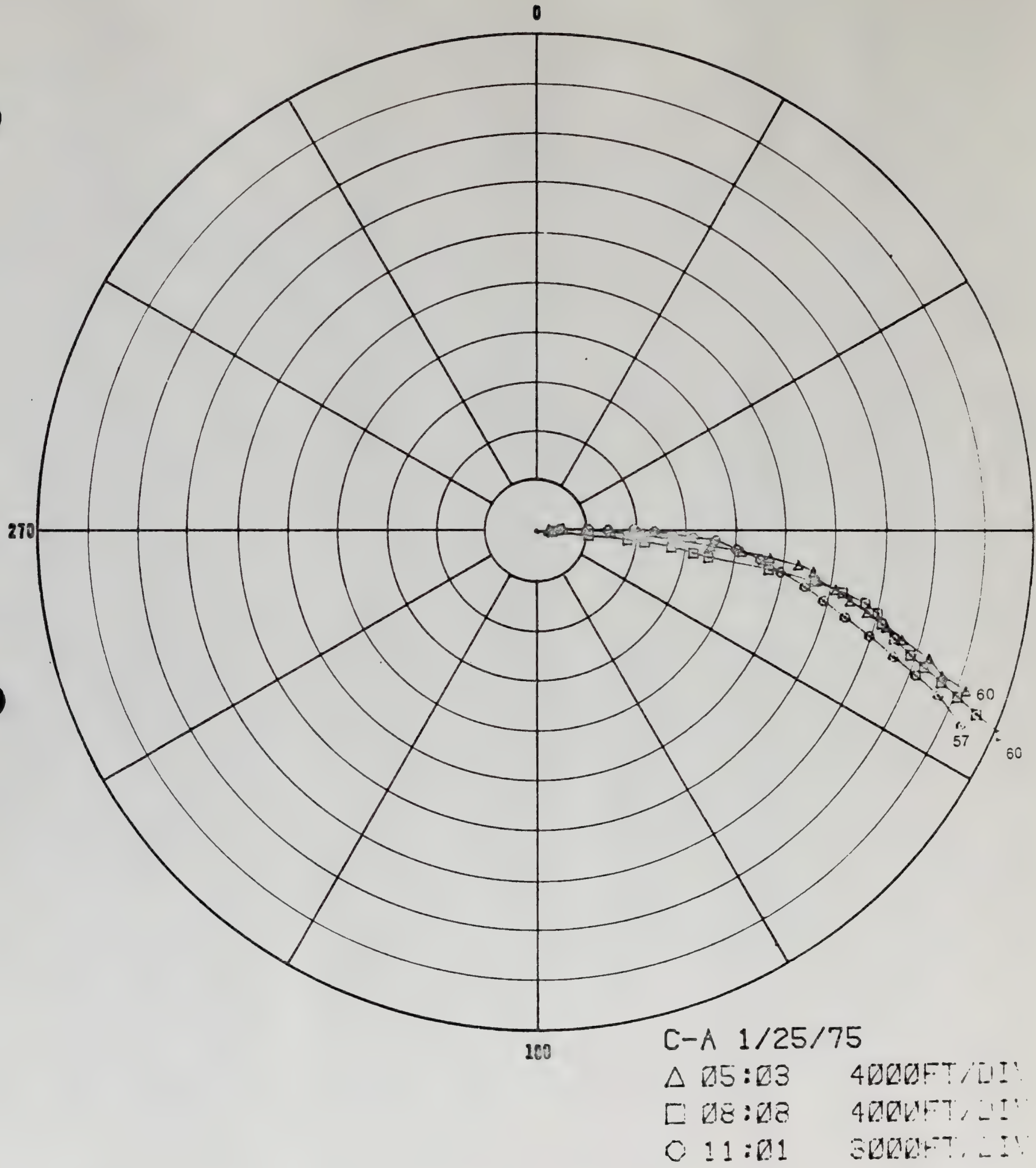


Figure C-4. PIBAL Trajectories over Tract C-a

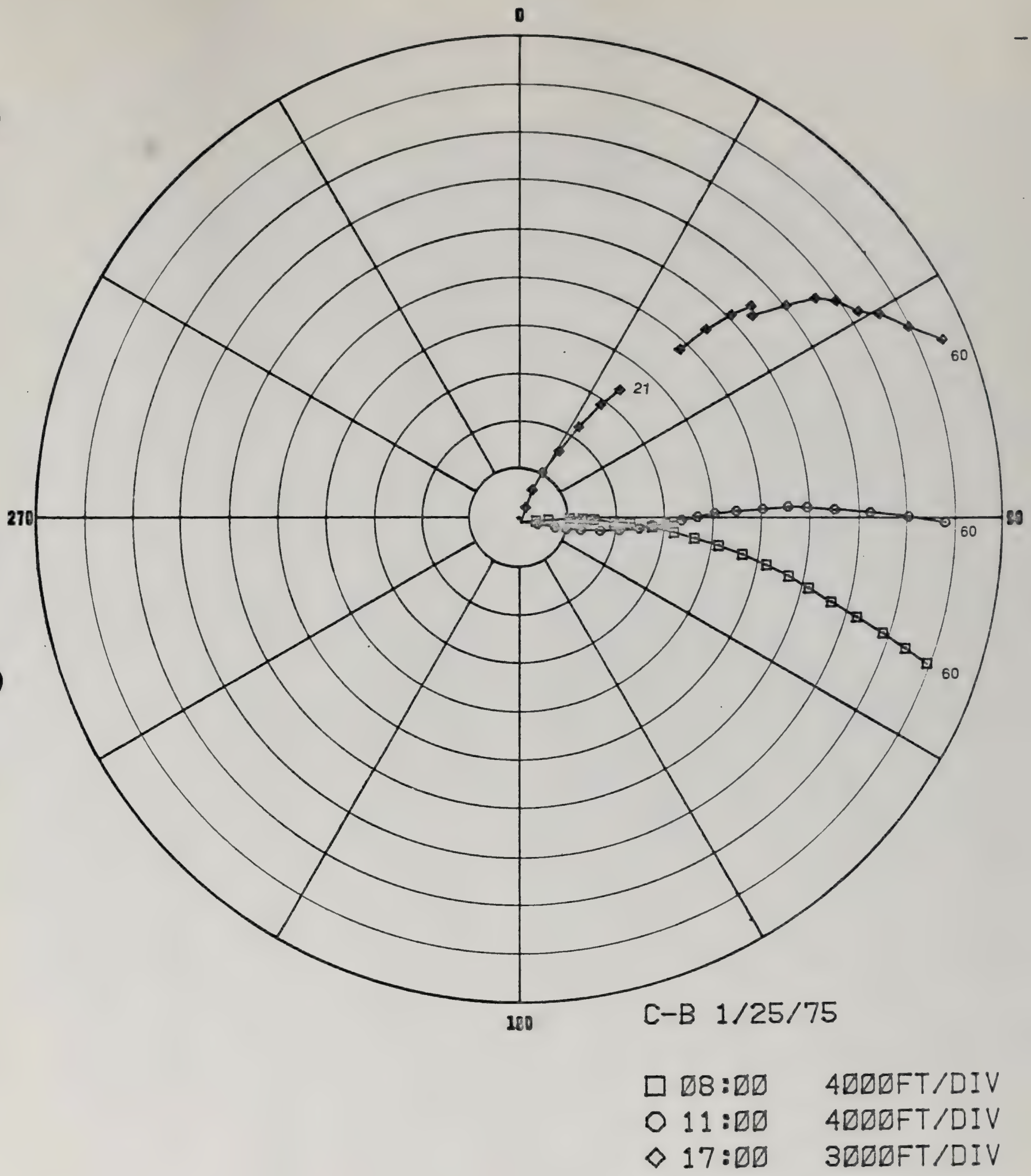


Figure C-4 Pilot Balloon Soundings made over Tract C-b

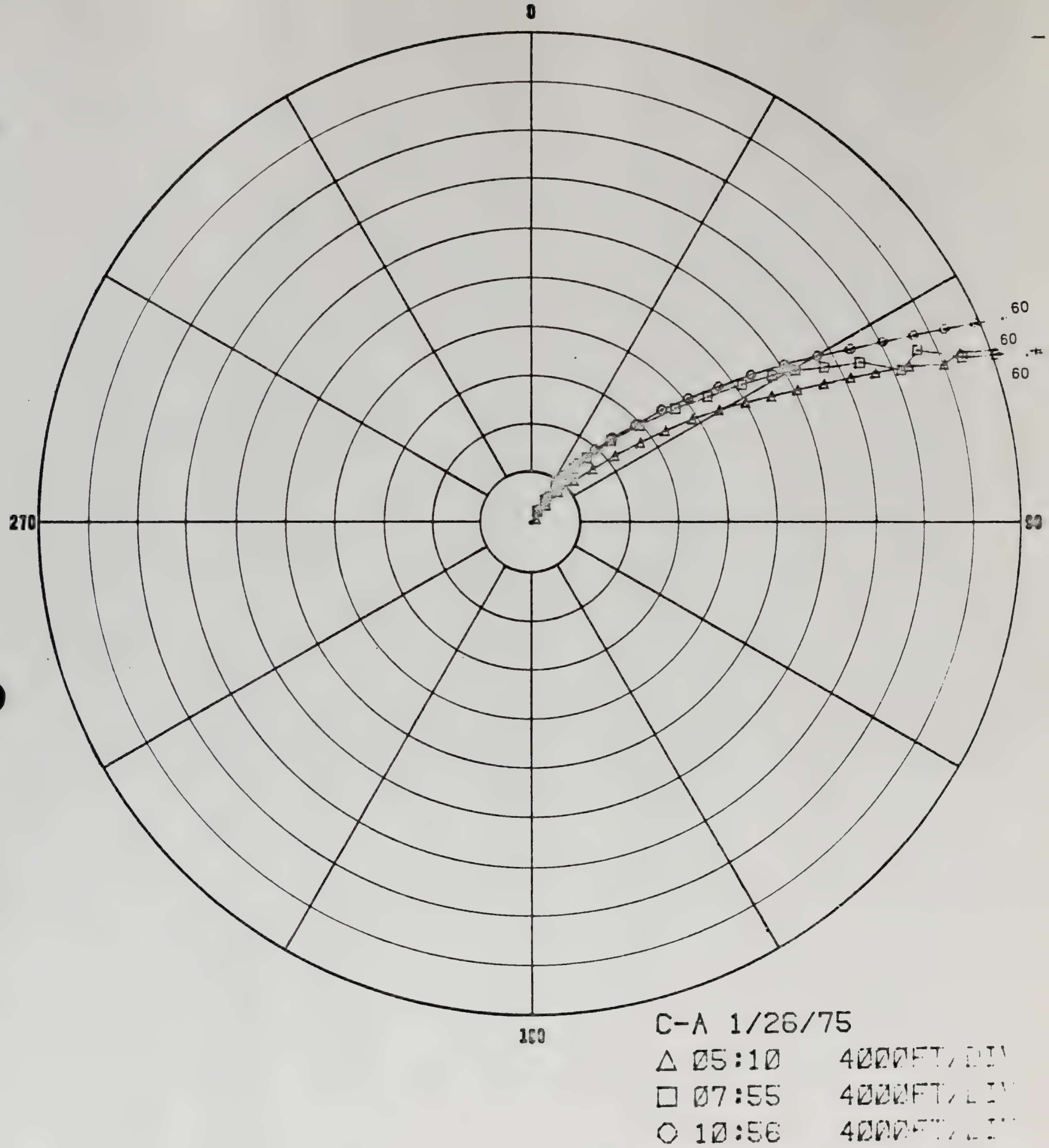


Figure C-5. PIBAL Trajectories over Tract C-a

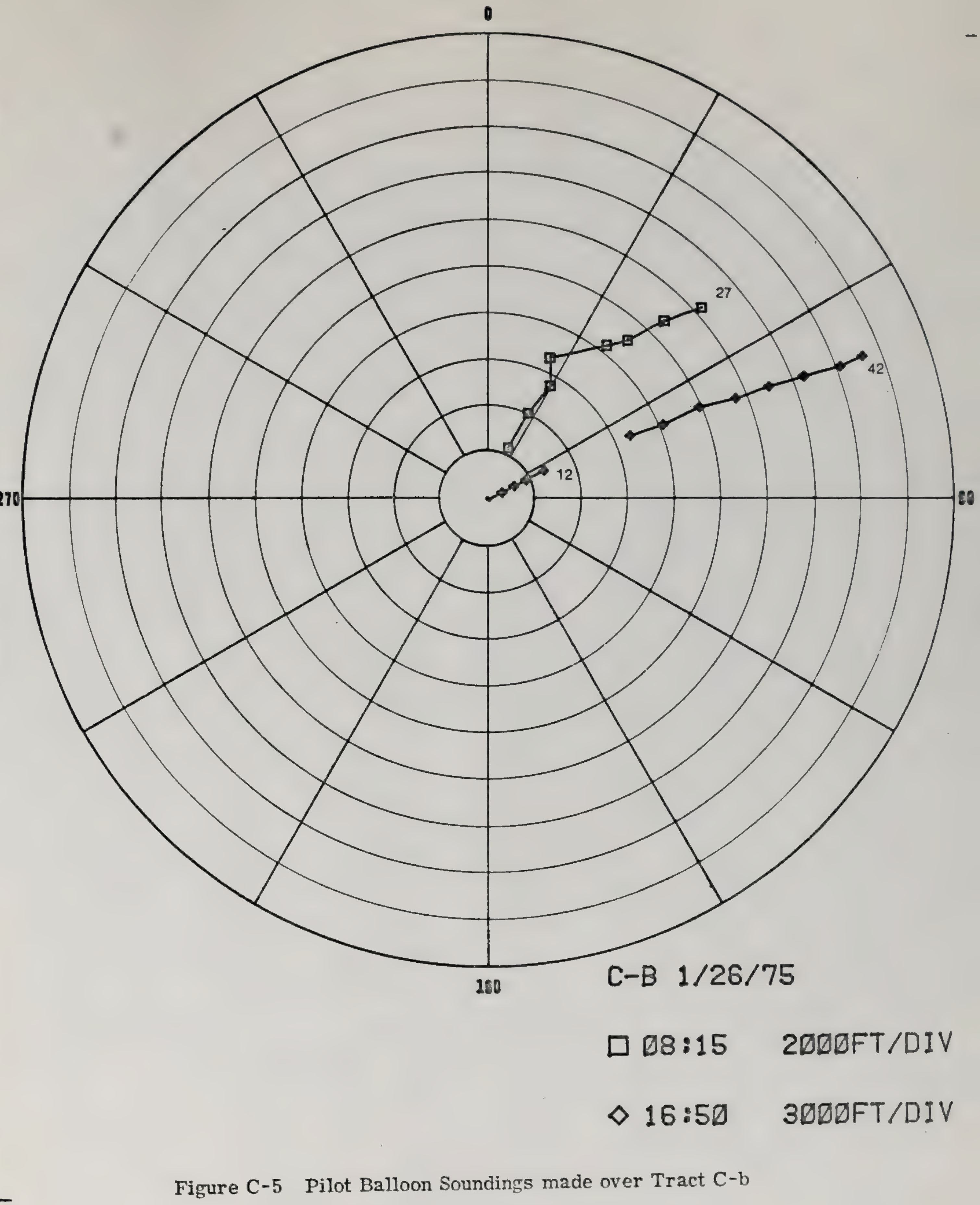


Figure C-5 Pilot Balloon Soundings made over Tract C-b

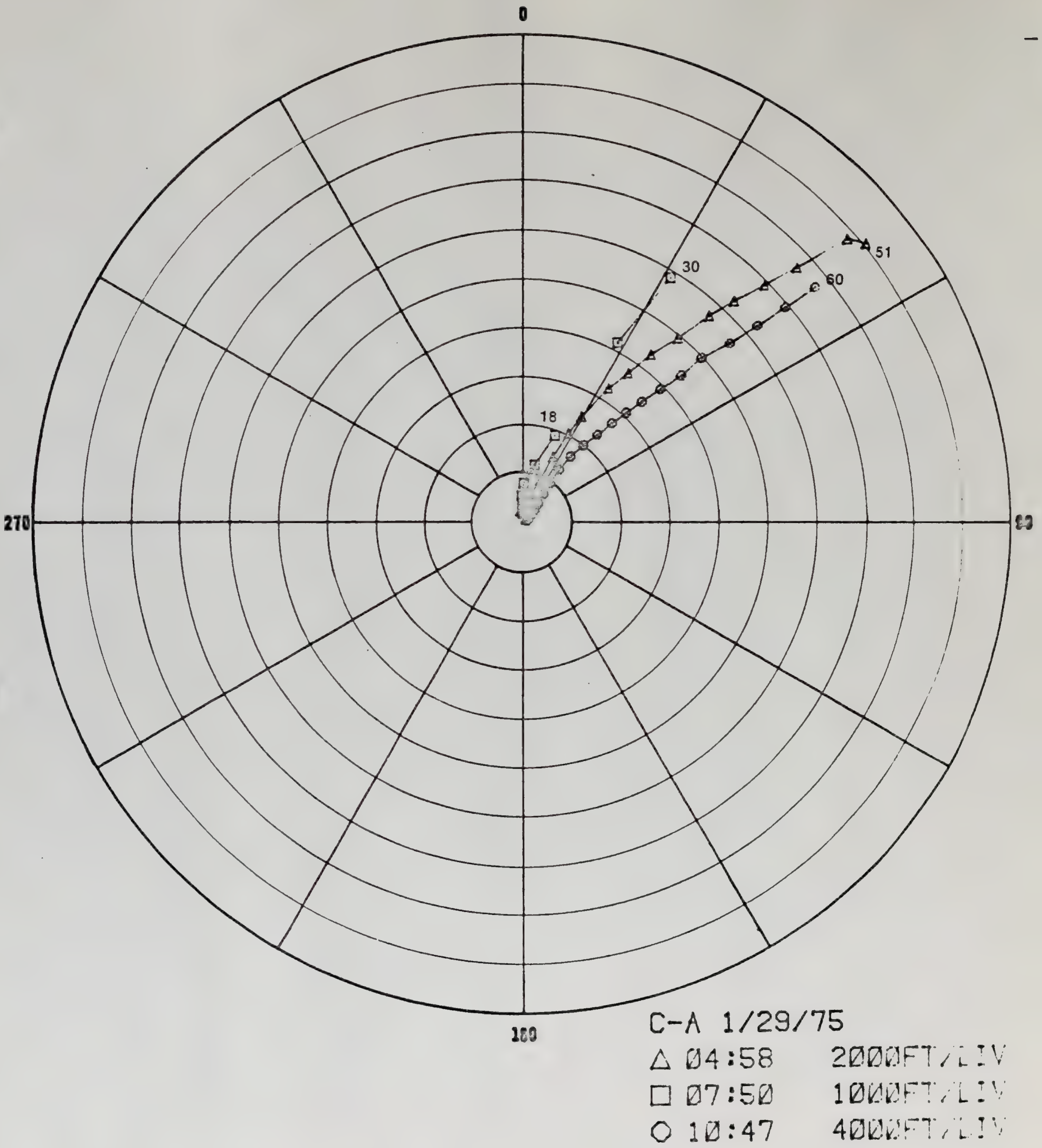


Figure C-6. PIBAL Trajectories over Tract C-a

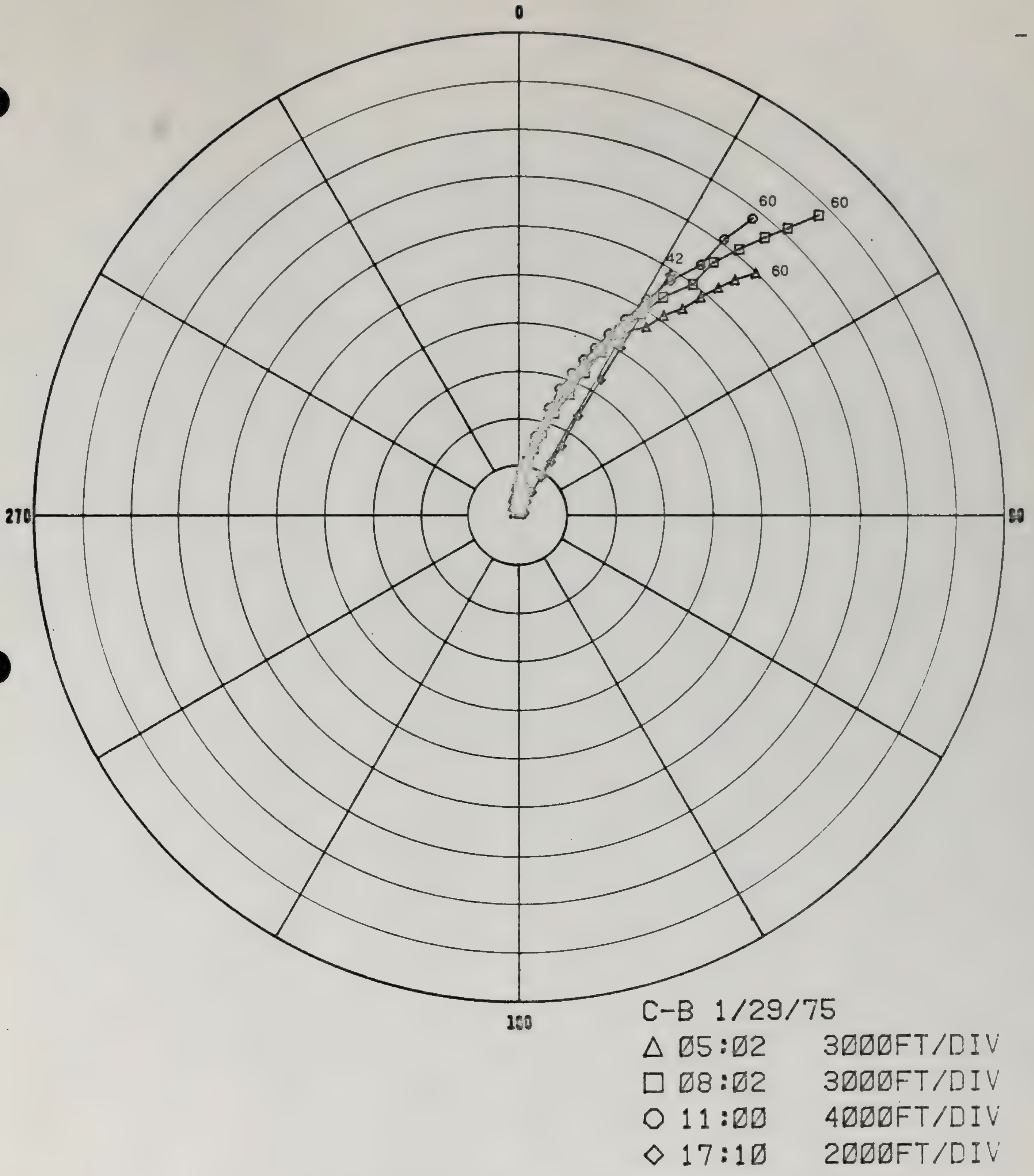


Figure C-6 Pilot Balloon Soundings made over Tract C-b

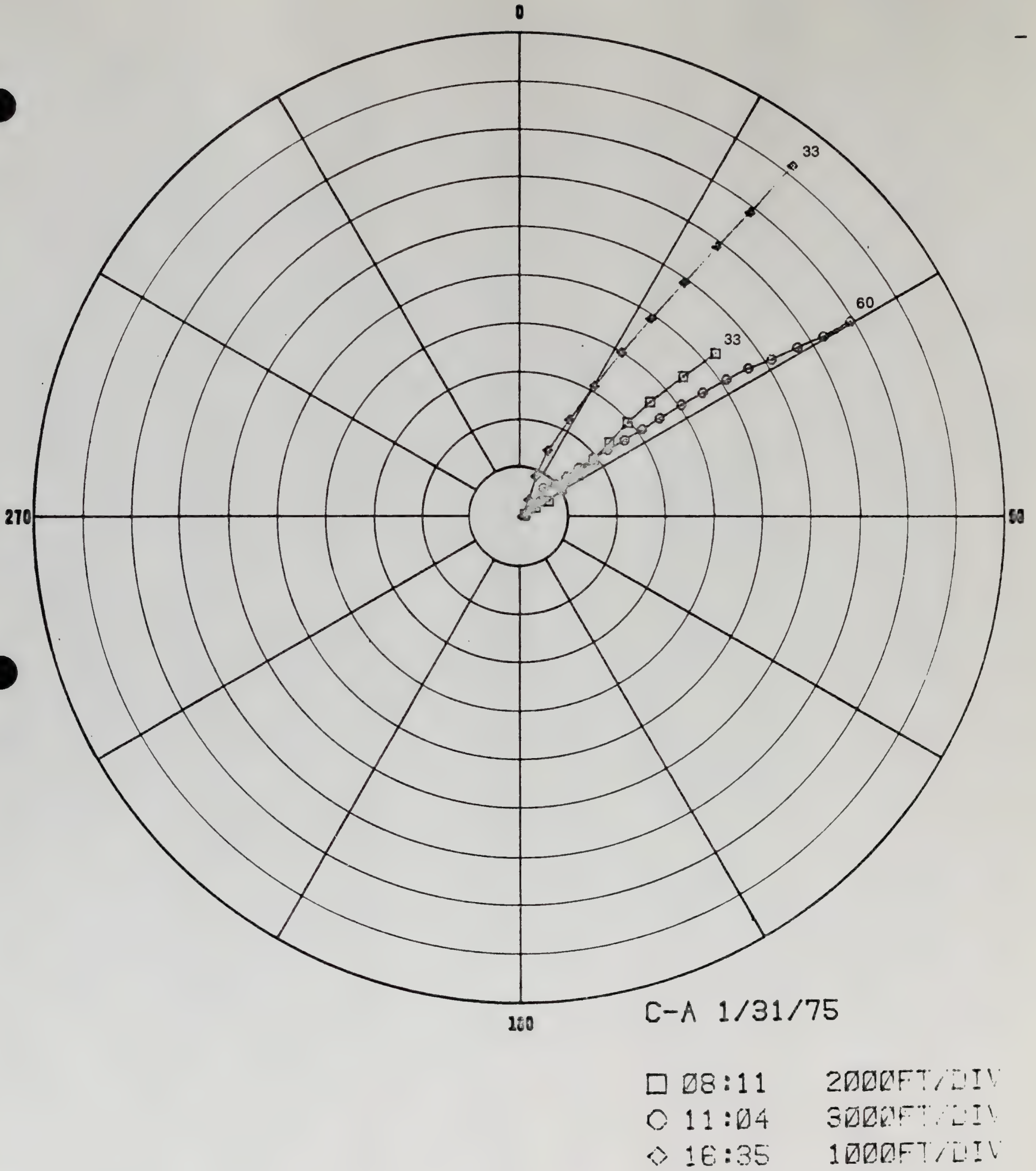


Figure C-7. PIBAL Trajectories over Tract C-a

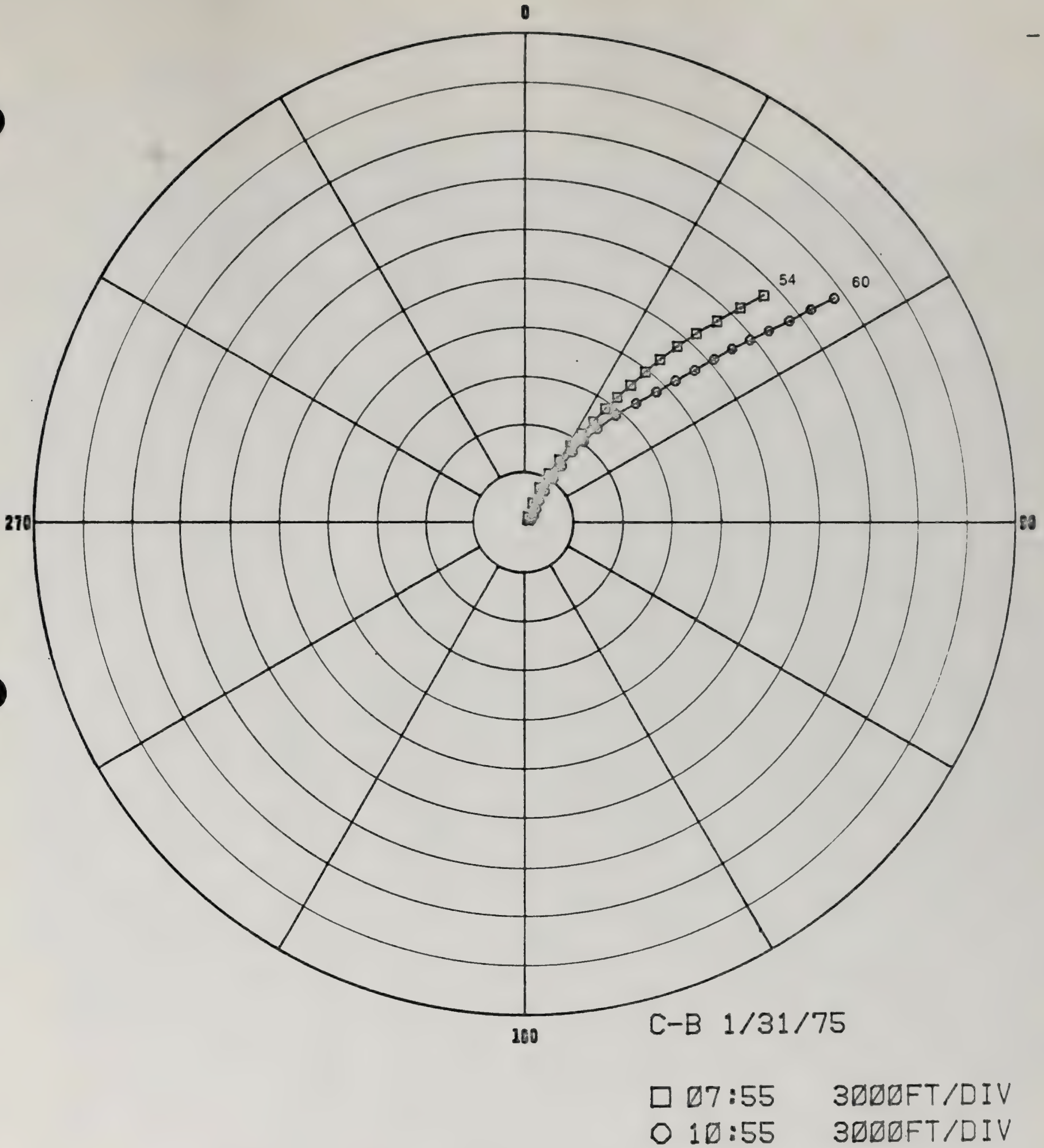


Figure C-7 Pilot Balloon Soundings made over Tract C-b

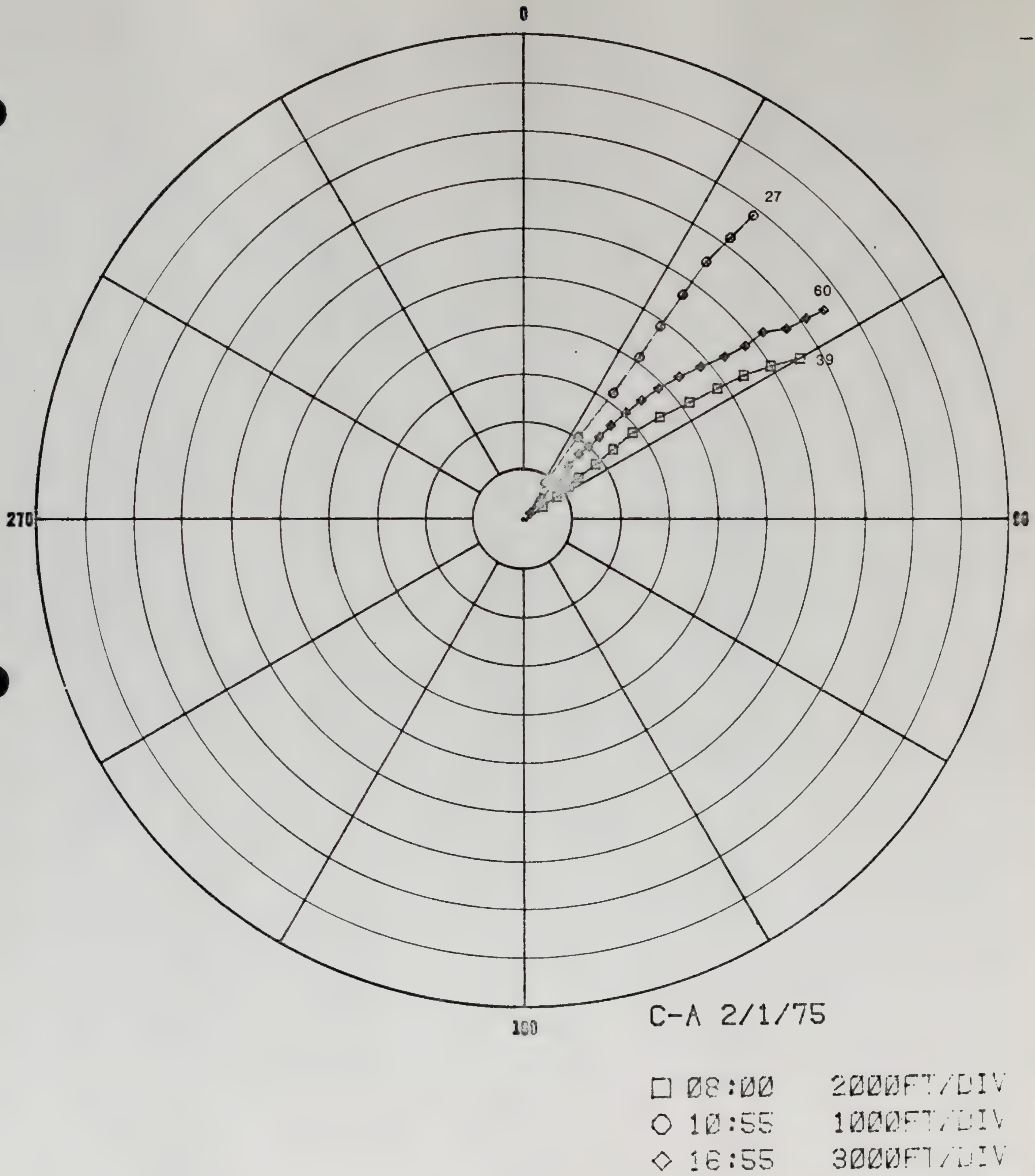


Figure C-8. PIBAL Trajectories over Tract C-a

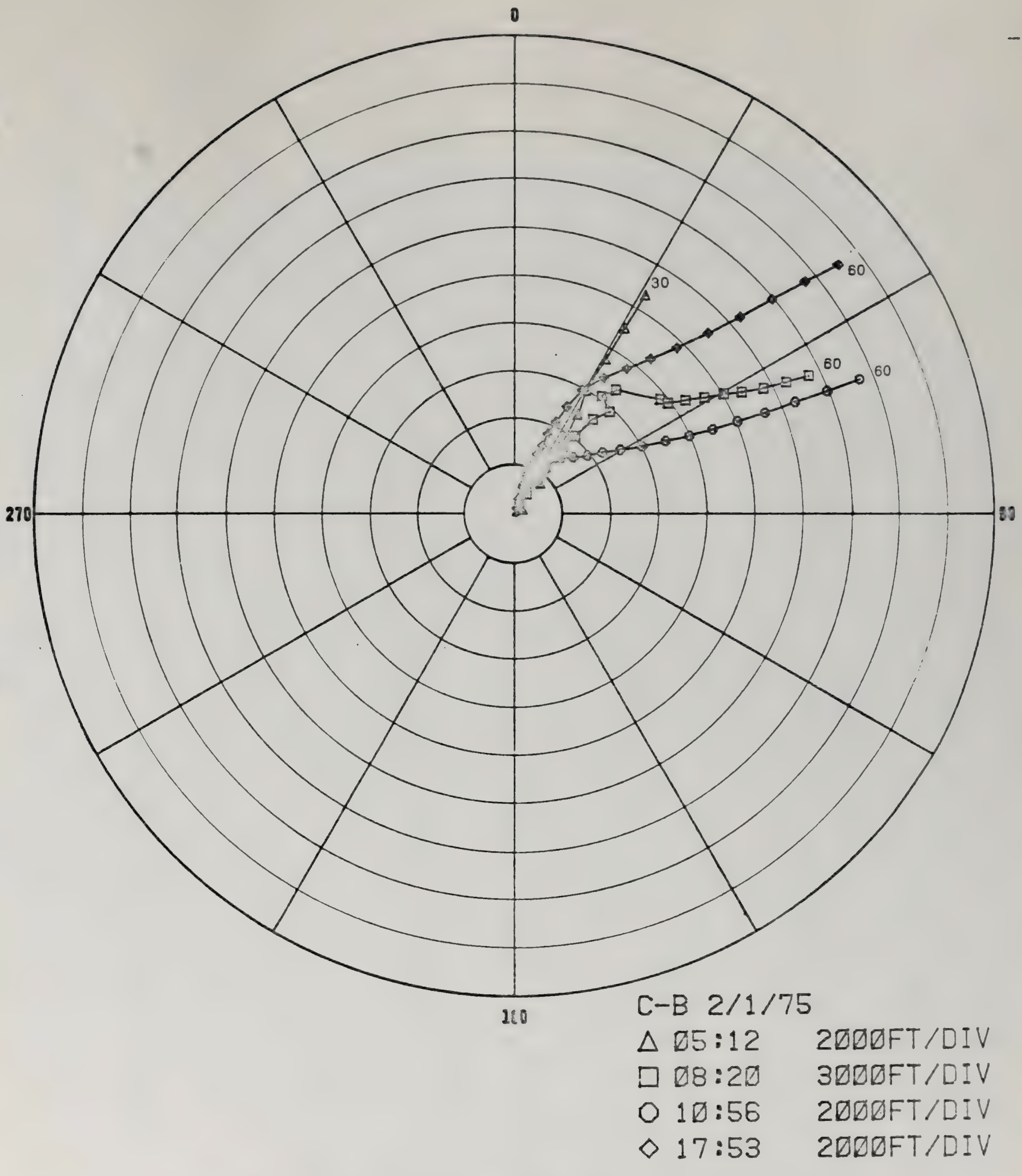


Figure C-8 Pilot Balloon Soundings made over Tract C-b

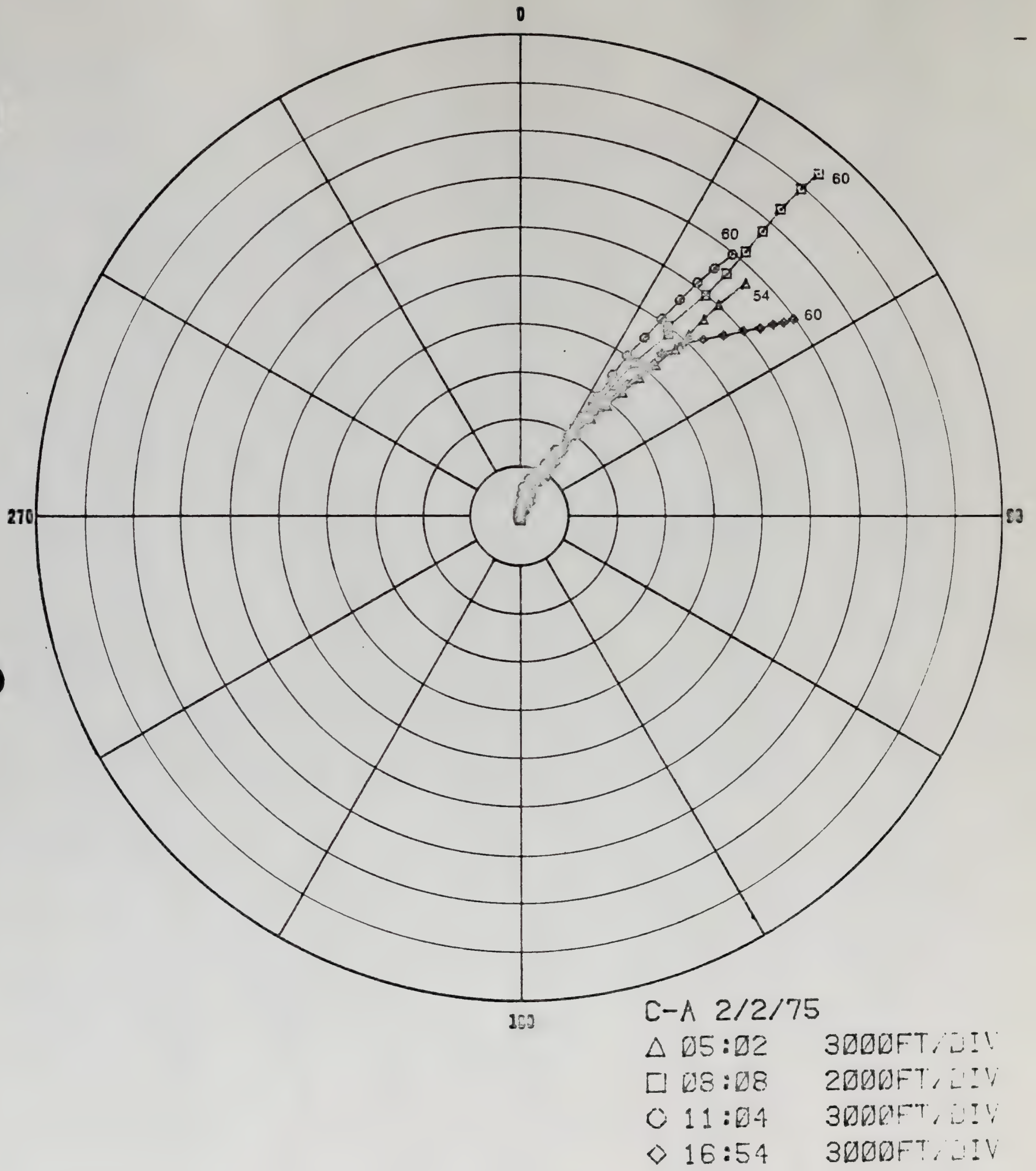


Figure C-9. PIBAL Trajectories over Tract C-a

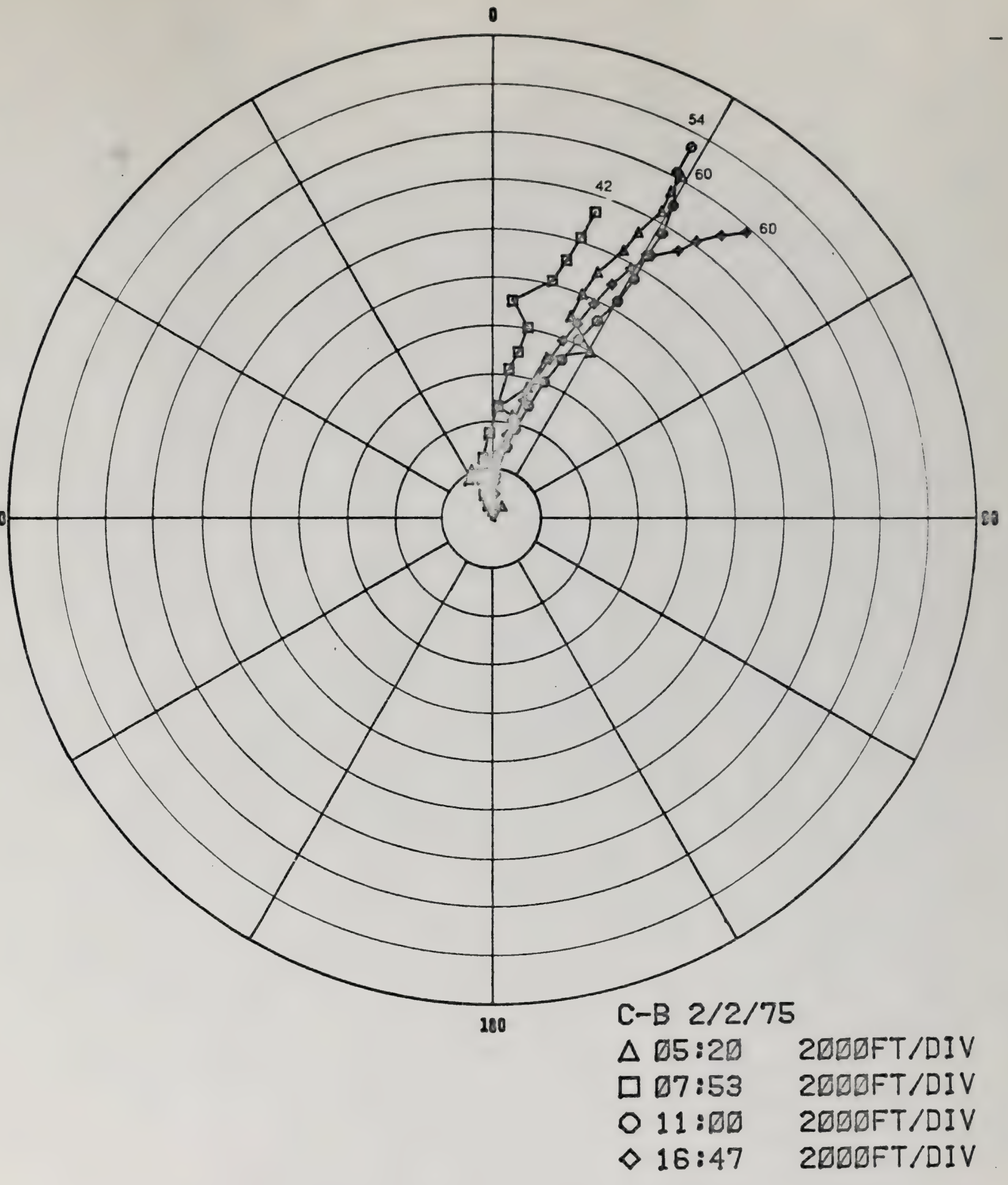


Figure C-9 Pilot Balloon Soundings made over Tract C-b

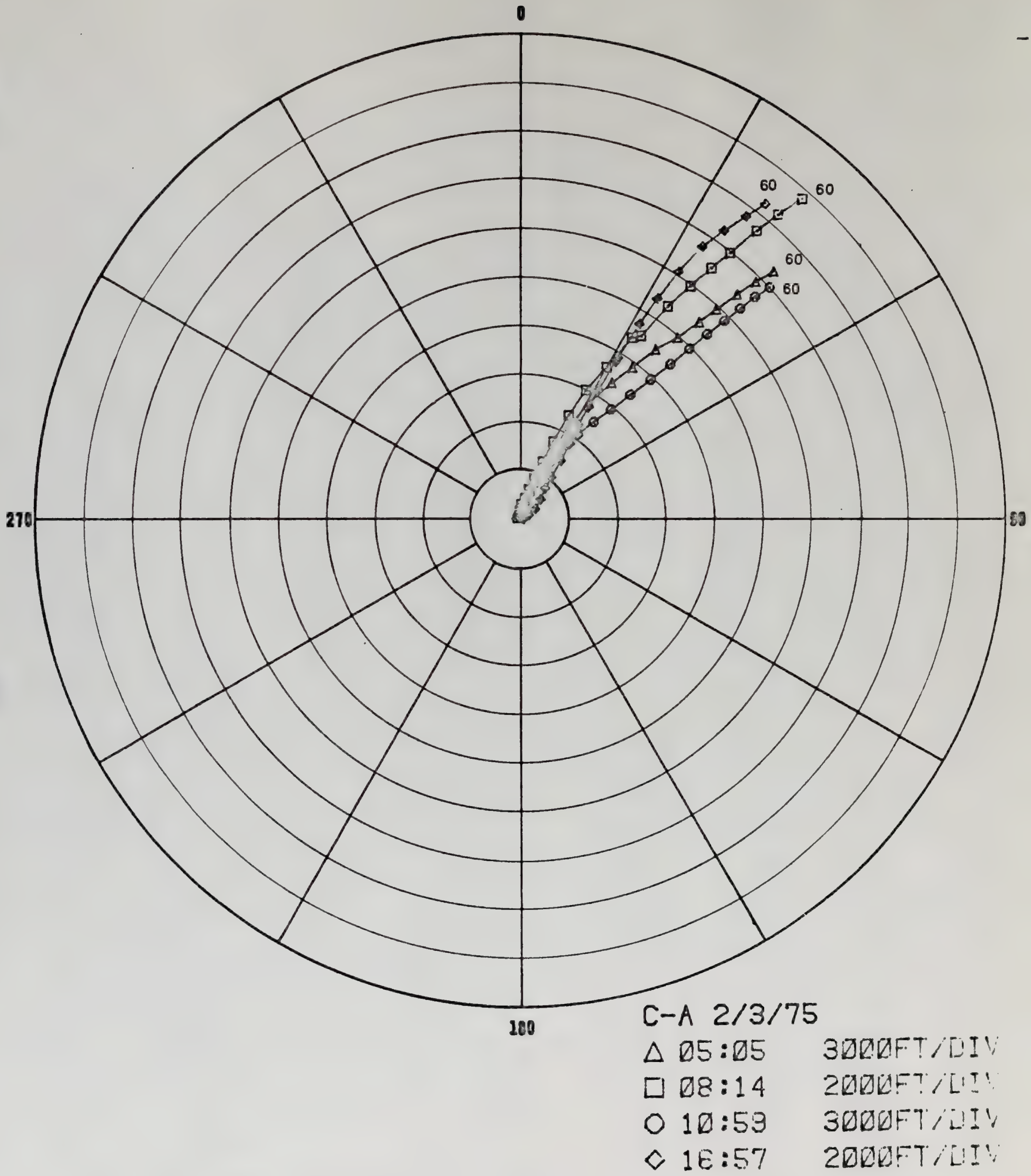


Figure C-10. PIBAL Trajectories over Tract C-a

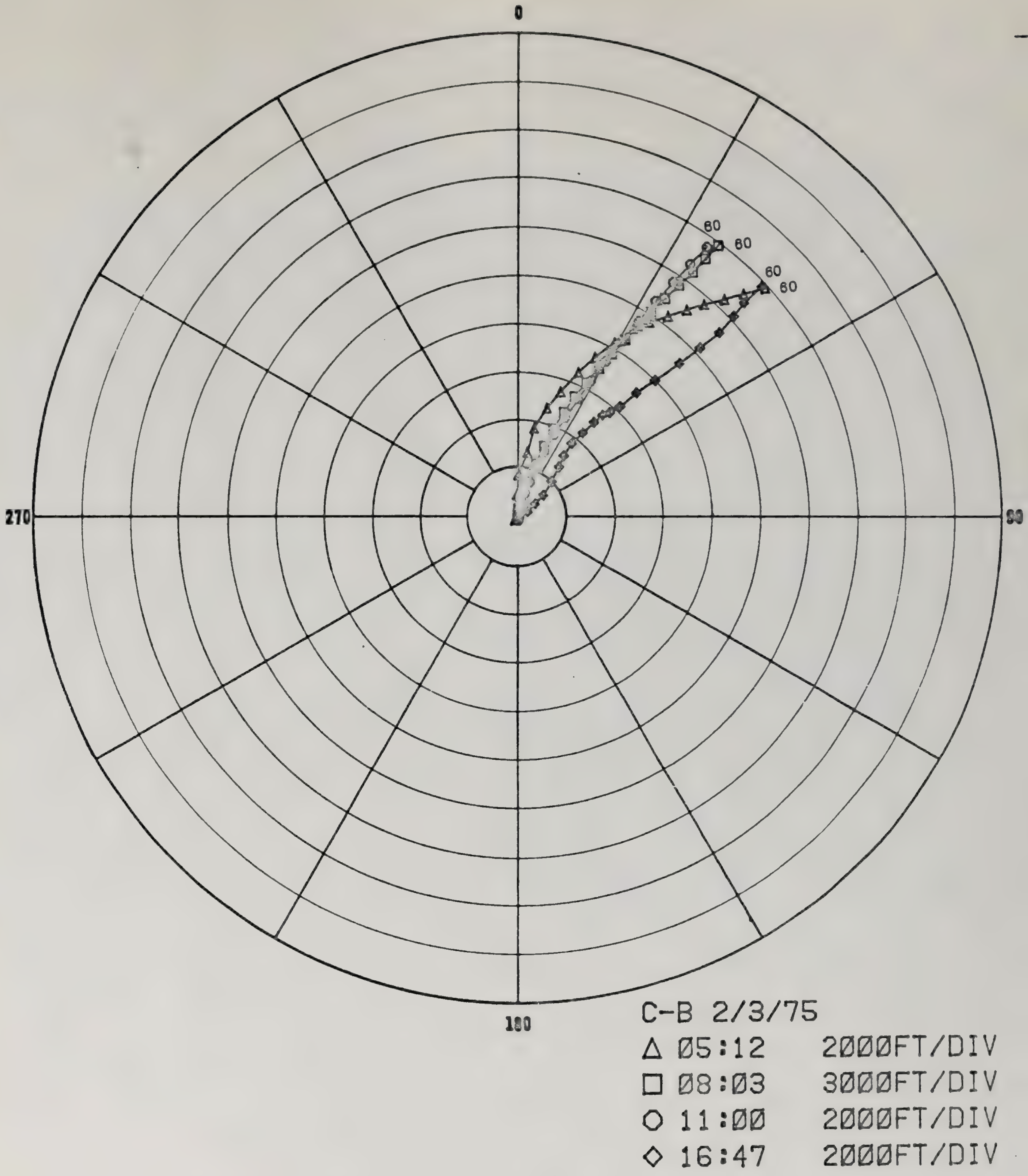


Figure C-10 Pilot Balloon Soundings made over Tract C-b

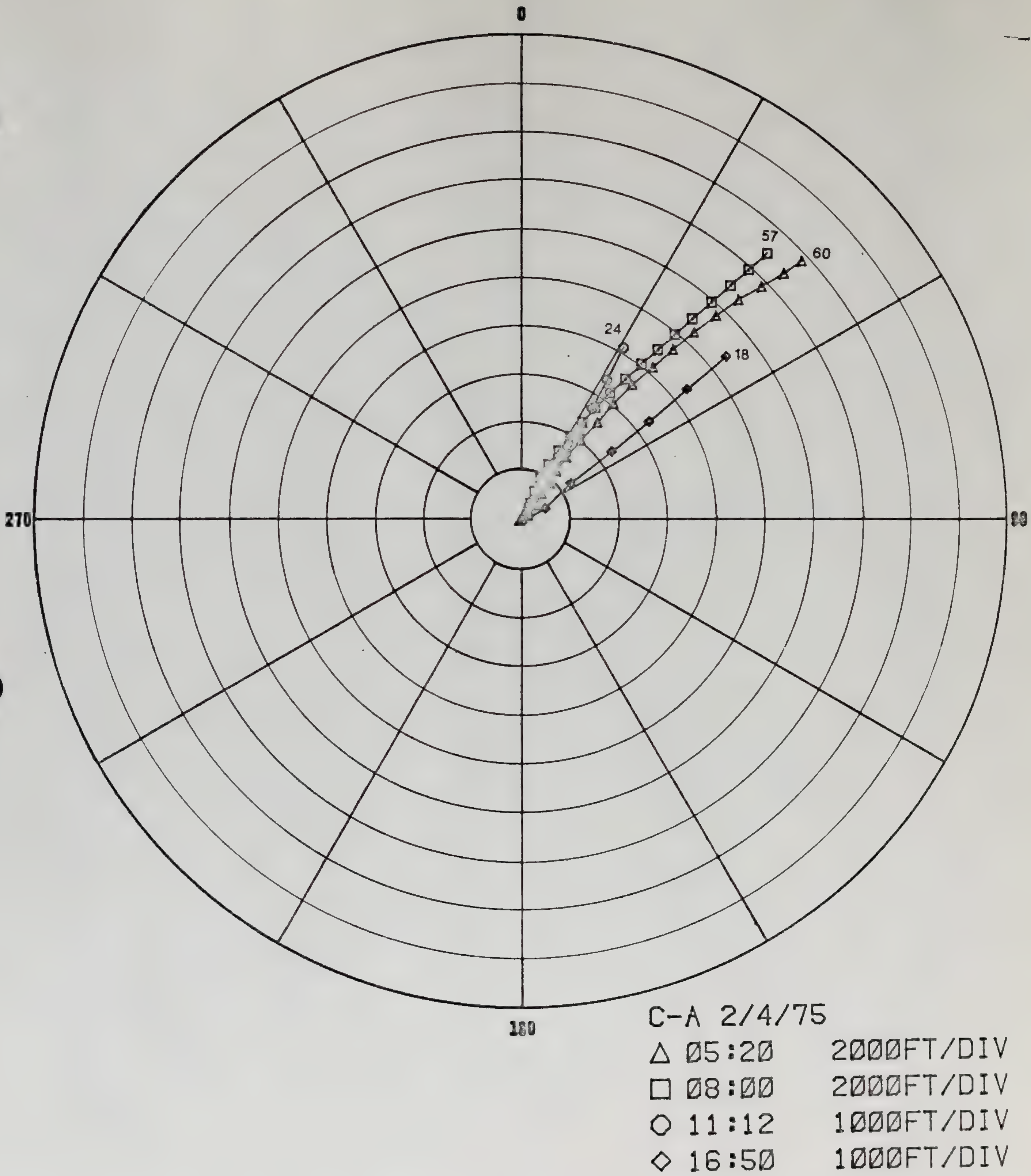


Figure C-11. PIBAL Trajectories over Tract C-a

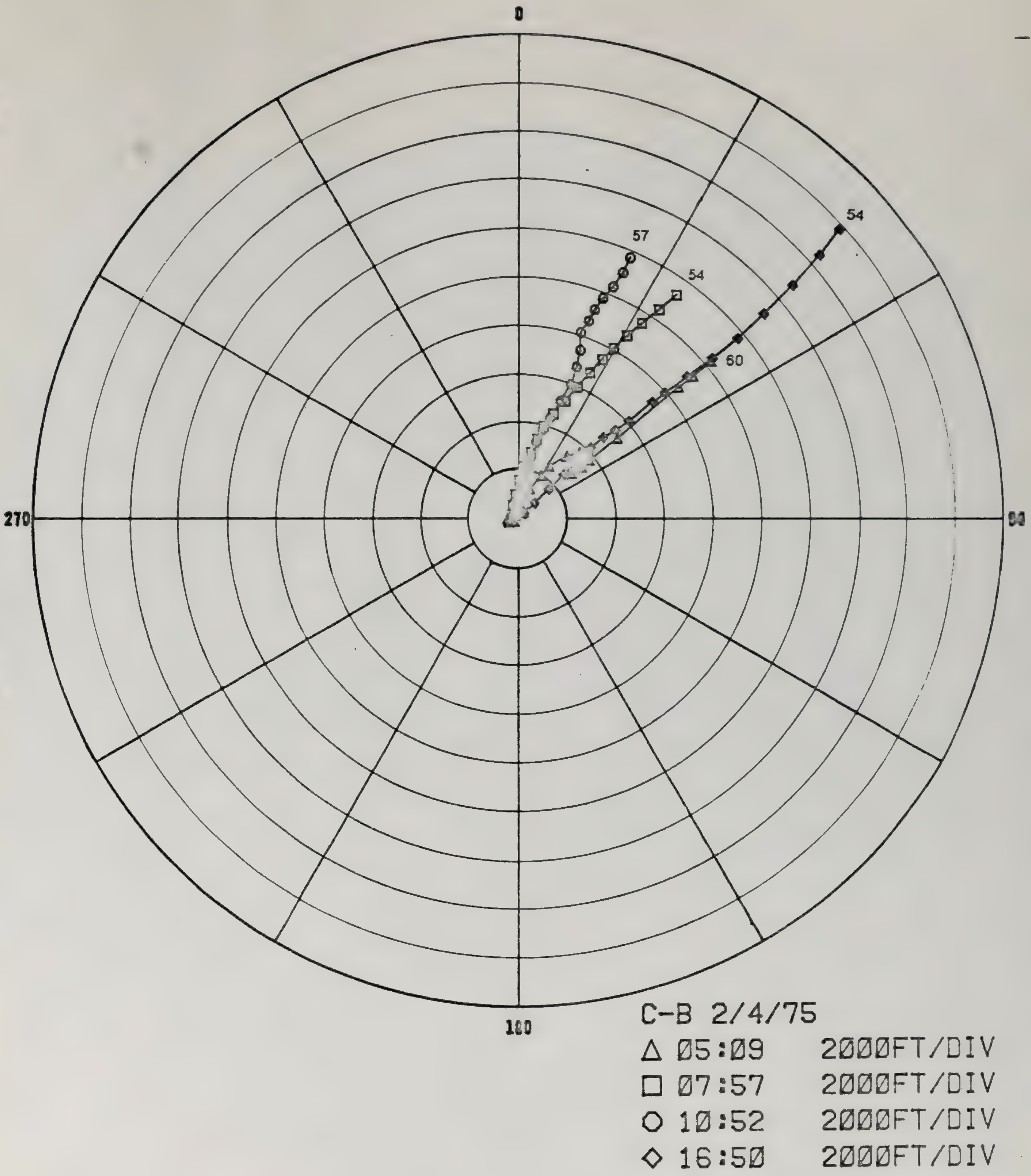


Figure C-11 Pilot Balloon Soundings made over Tract C-b

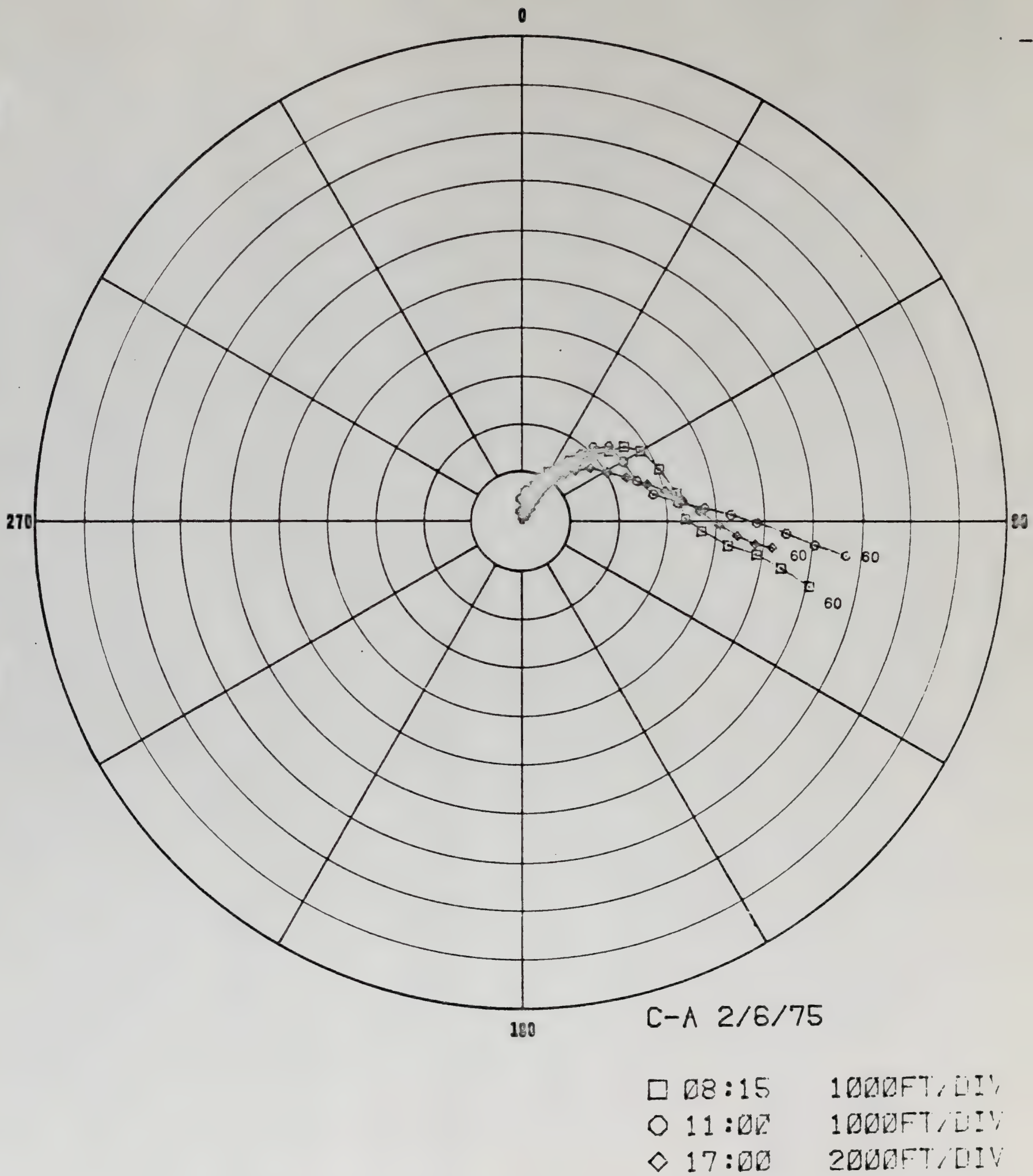


Figure C-12. PIBAL Trajectories over Tract C-a

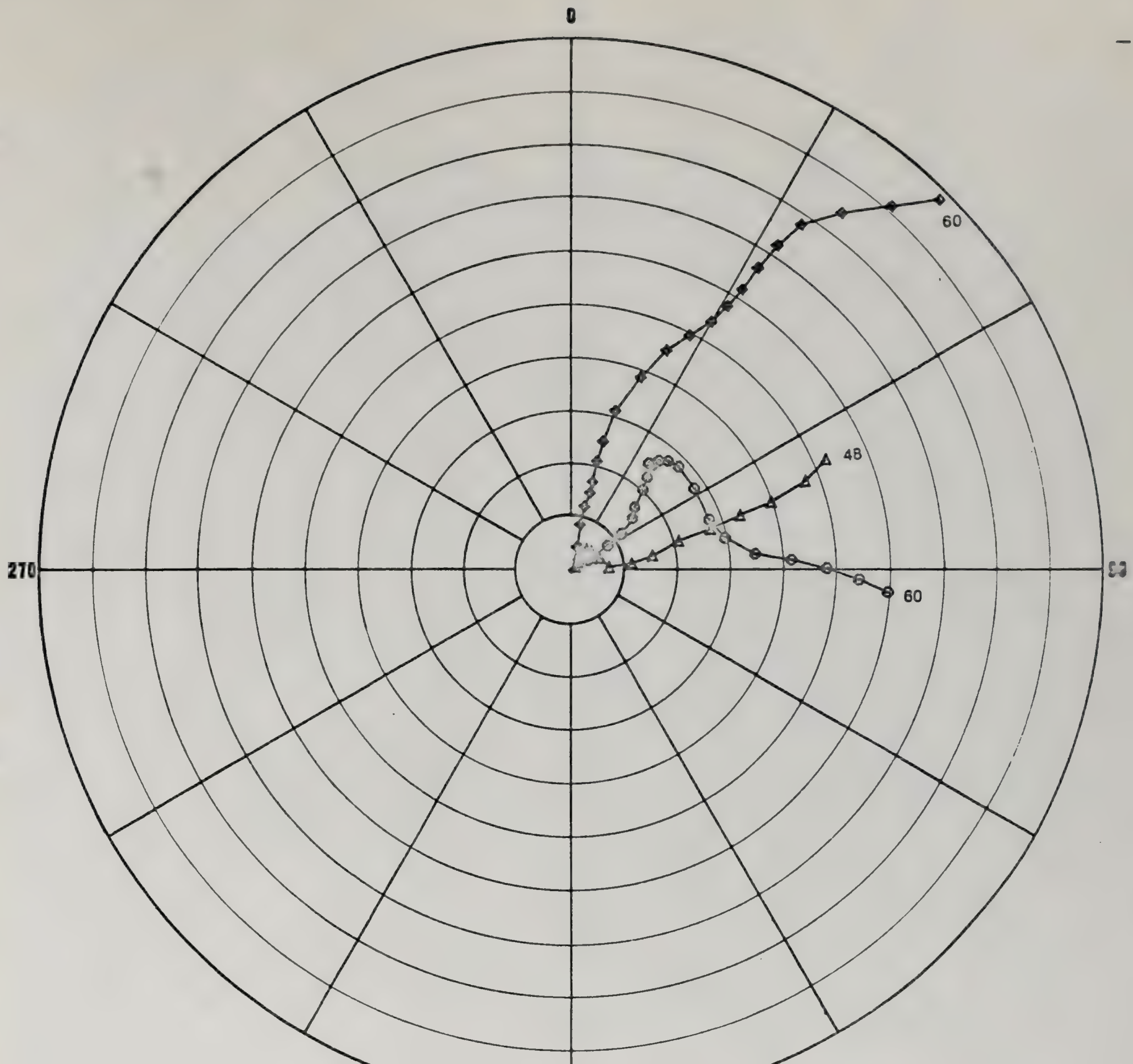


Figure C-12 Pilot Balloon Soundings made over Tract C-b

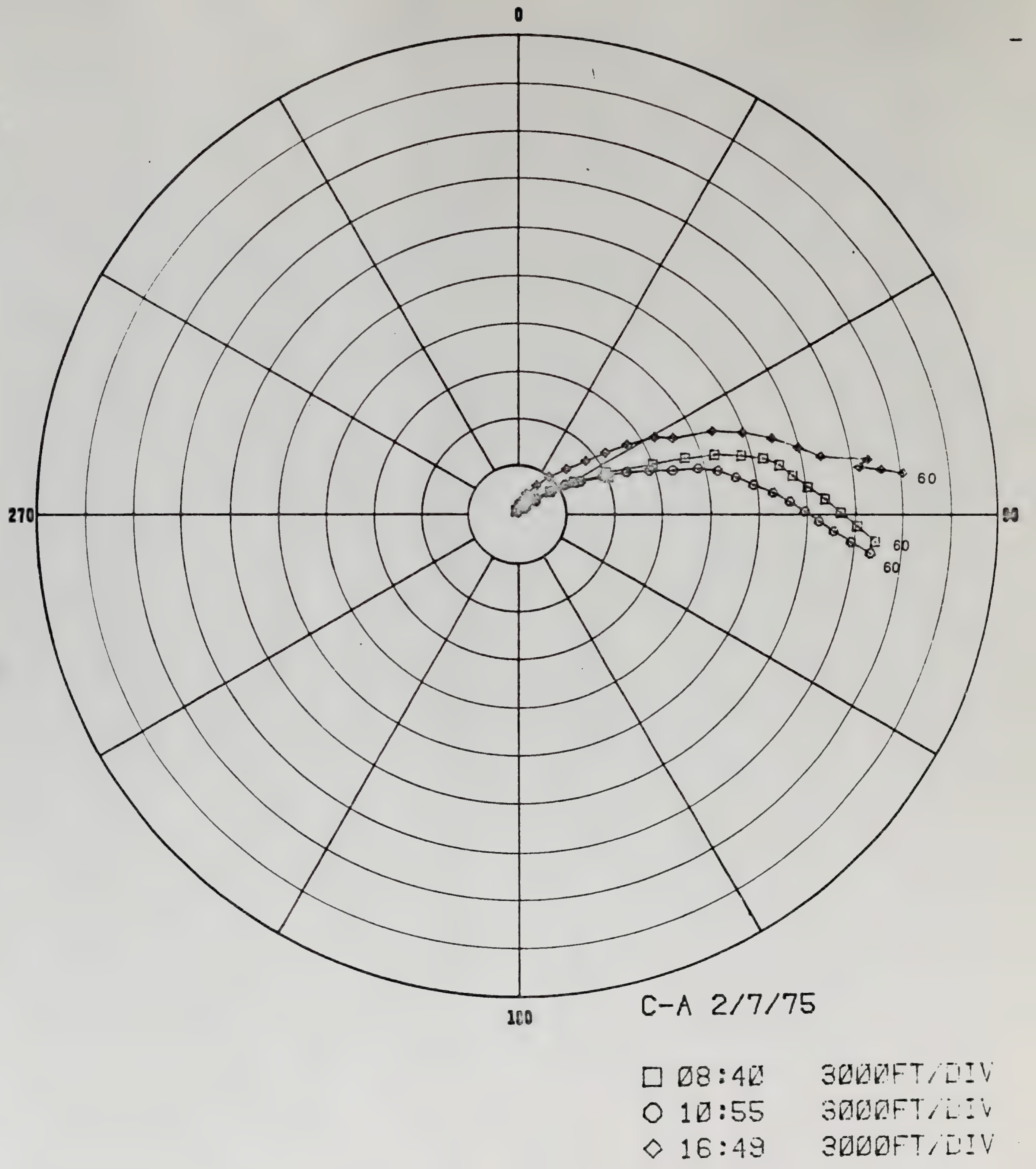


Figure C-13. PIBAL Trajectories over Tract C-a

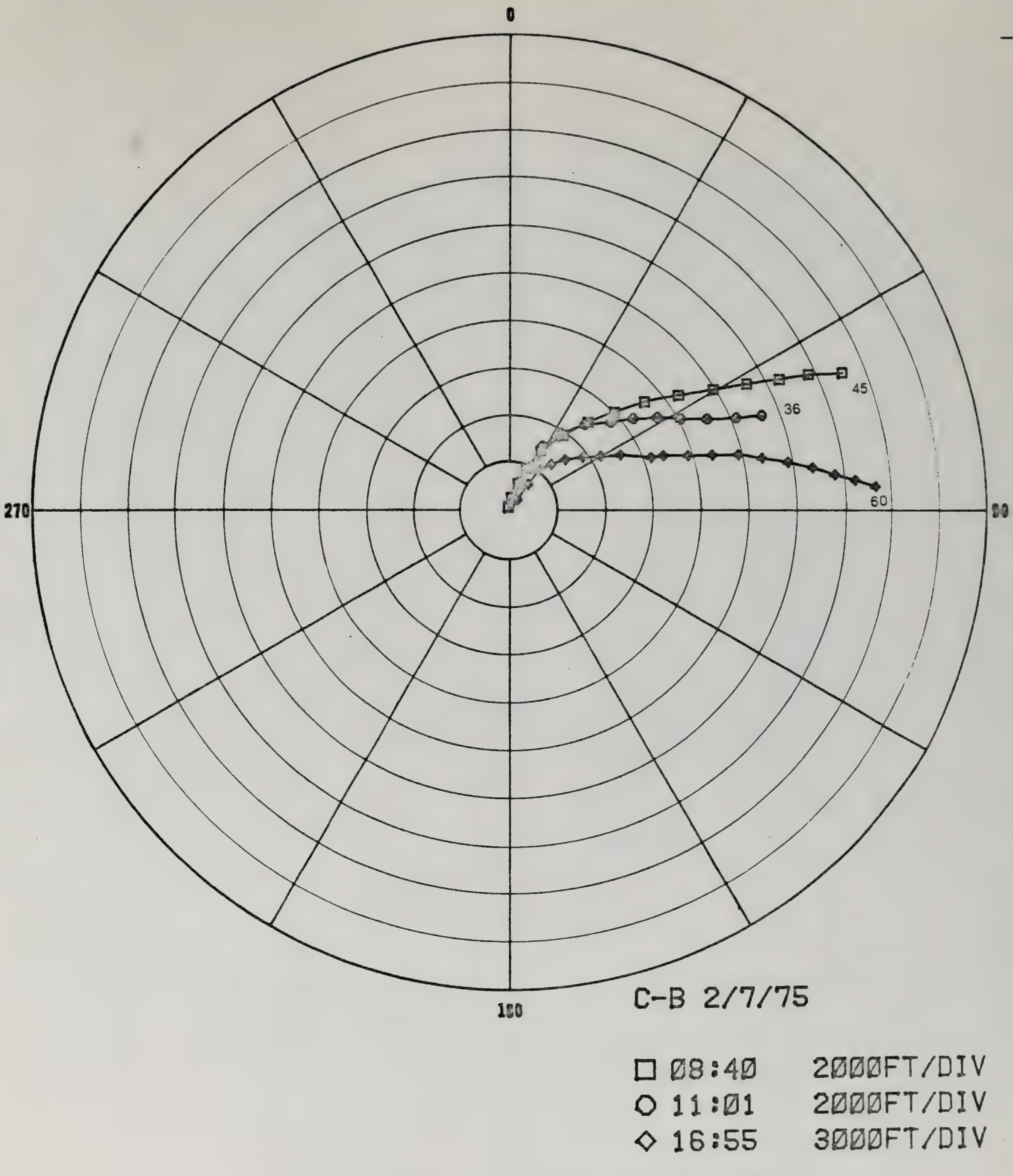


Figure C-13 Pilot Balloon Soundings made over Tract C-b

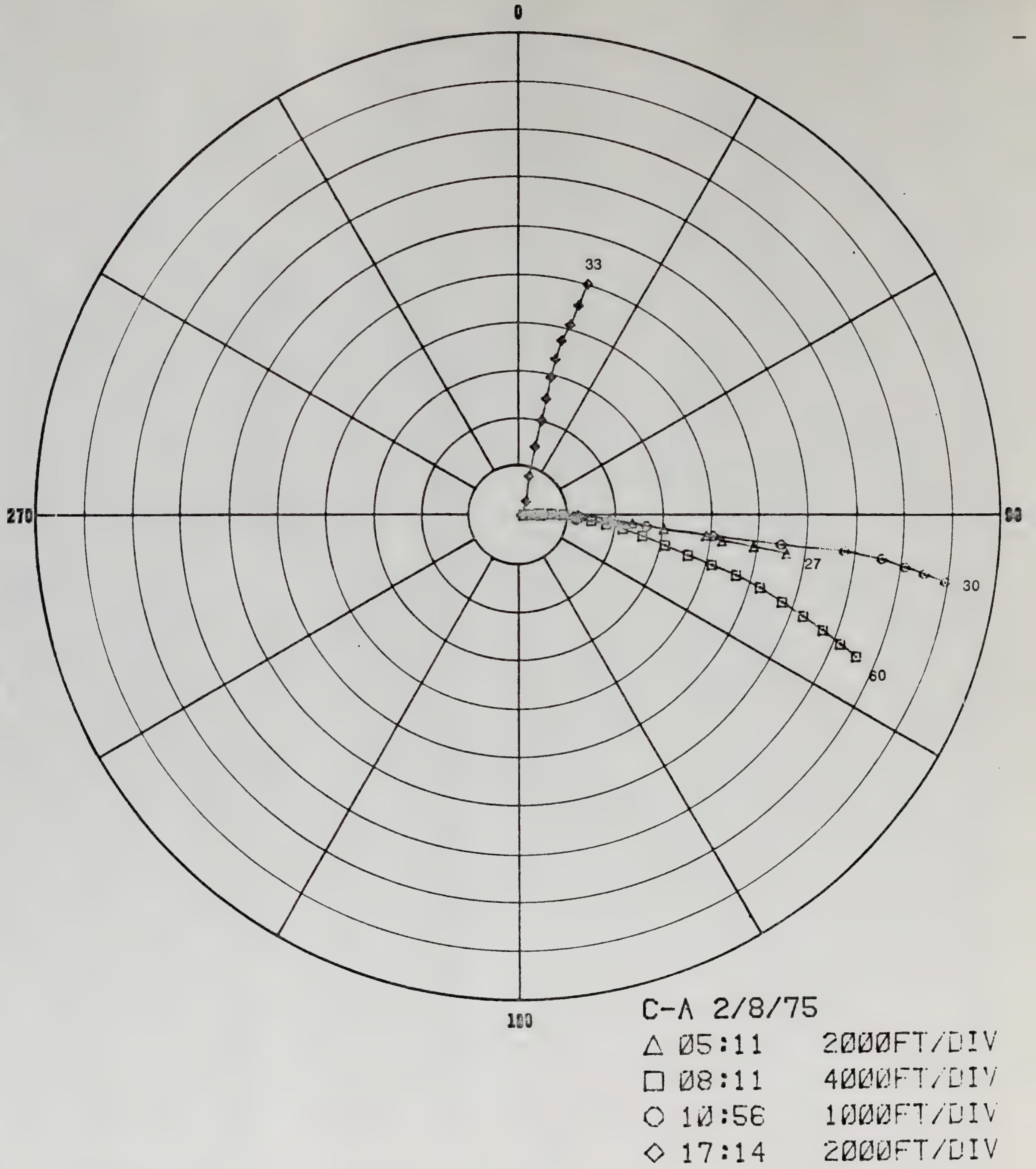


Figure C-14. PIBAL Trajectories over Tract C-a

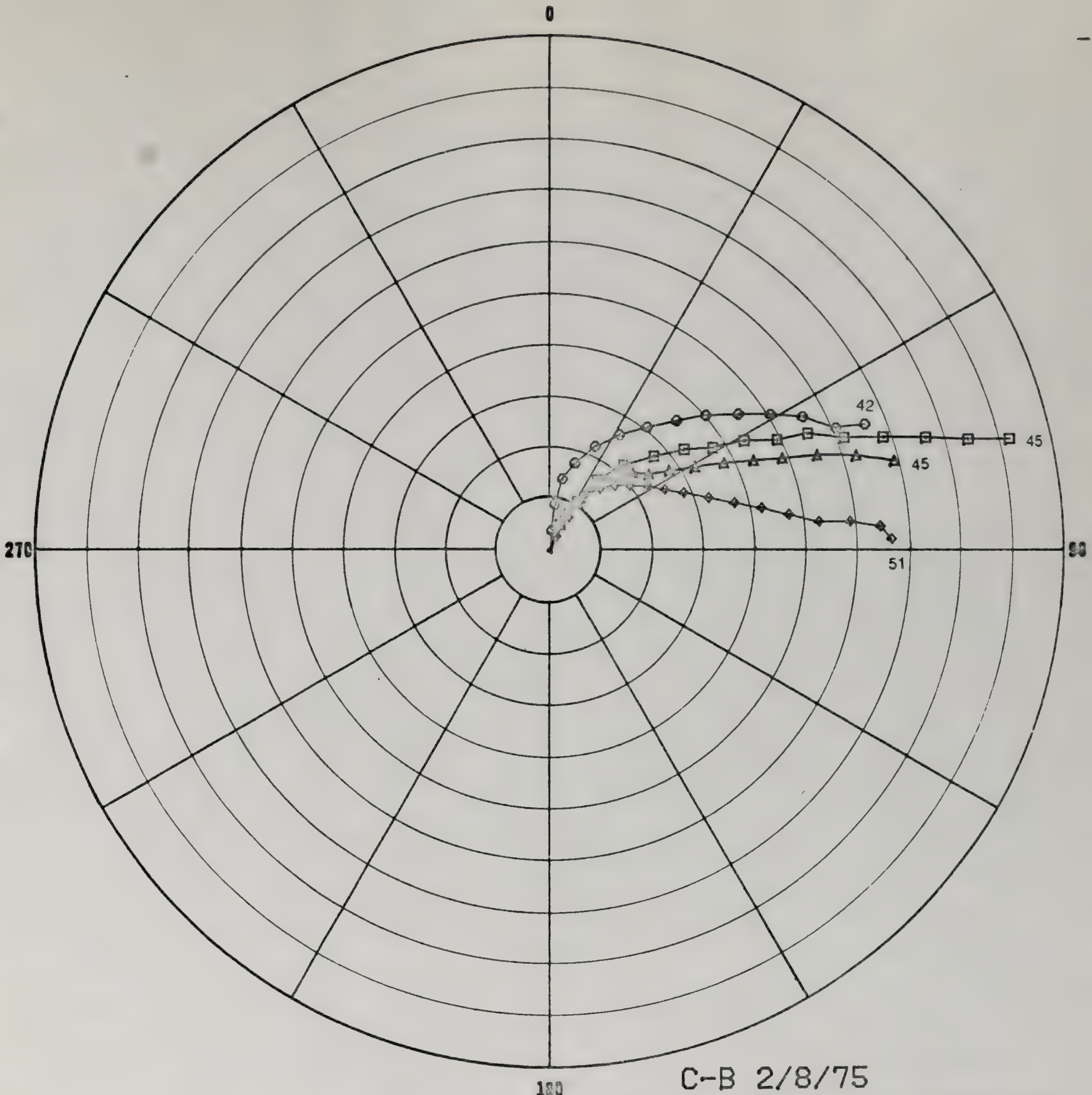


Figure C-14 Pilot Balloon Soundings made over Tract C-b

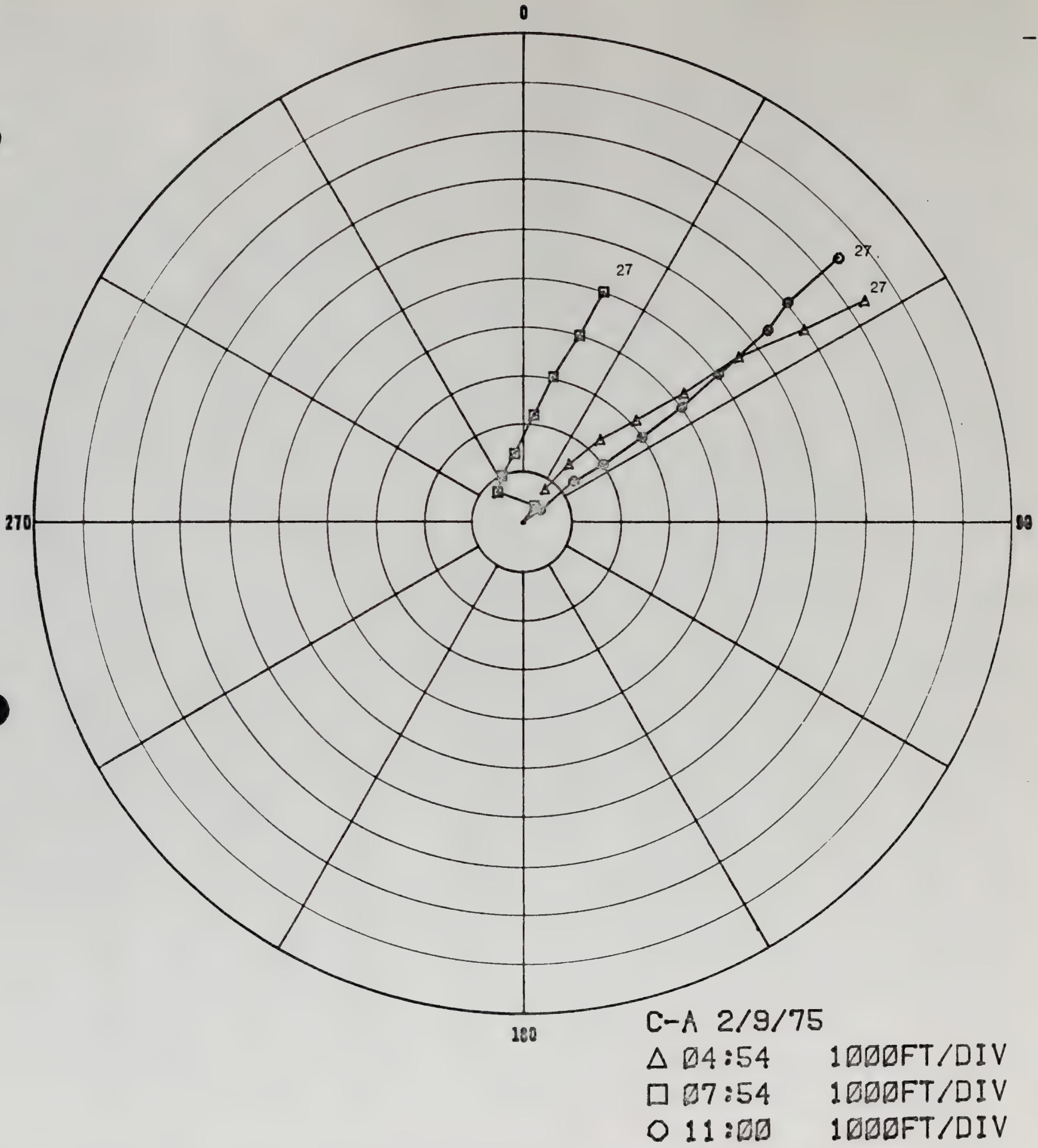


Figure C-15. PIBAL Trajectories over Tract C-a

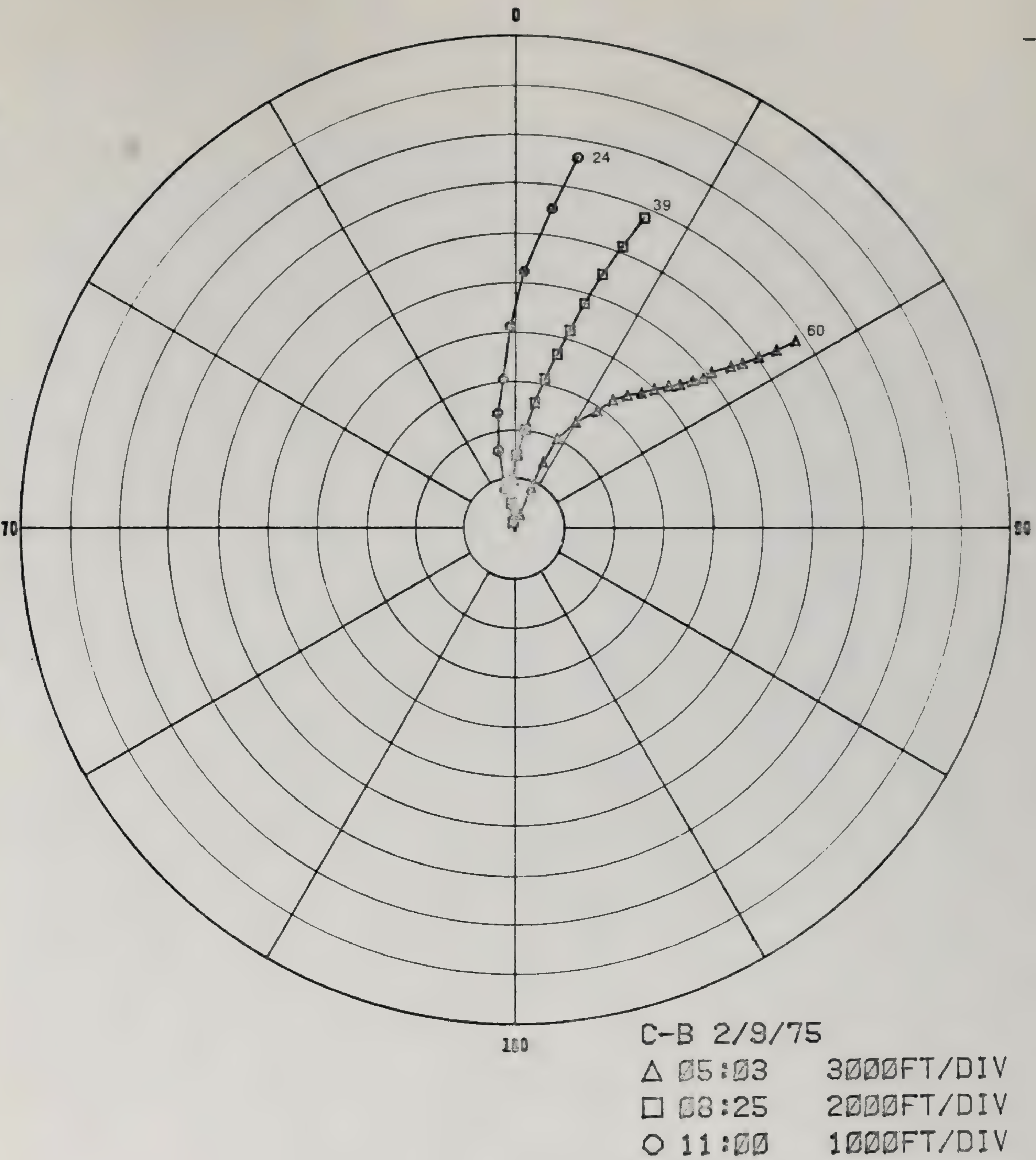


Figure C-15 Pilot Balloon Soundings made over Tract C-b

APPENDIX D

WIND DIRECTION VERSUS HEIGHT COMPARISON BETWEEN FEDERAL OIL SHALE TRACTS C-a AND C-b AND GRAND JUNCTION, COLORADO DURING 20 JANUARY THROUGH 9 FEBRUARY 1975

For all data presented in this appendix, the following point symbology has been adhered to:

△	Grand Junction Data
□	Tract C-a Data
⬡	Tract C-b Data

If there were no more than one of the above three plots for any particular flight, there was no comparison chart included for that flight.

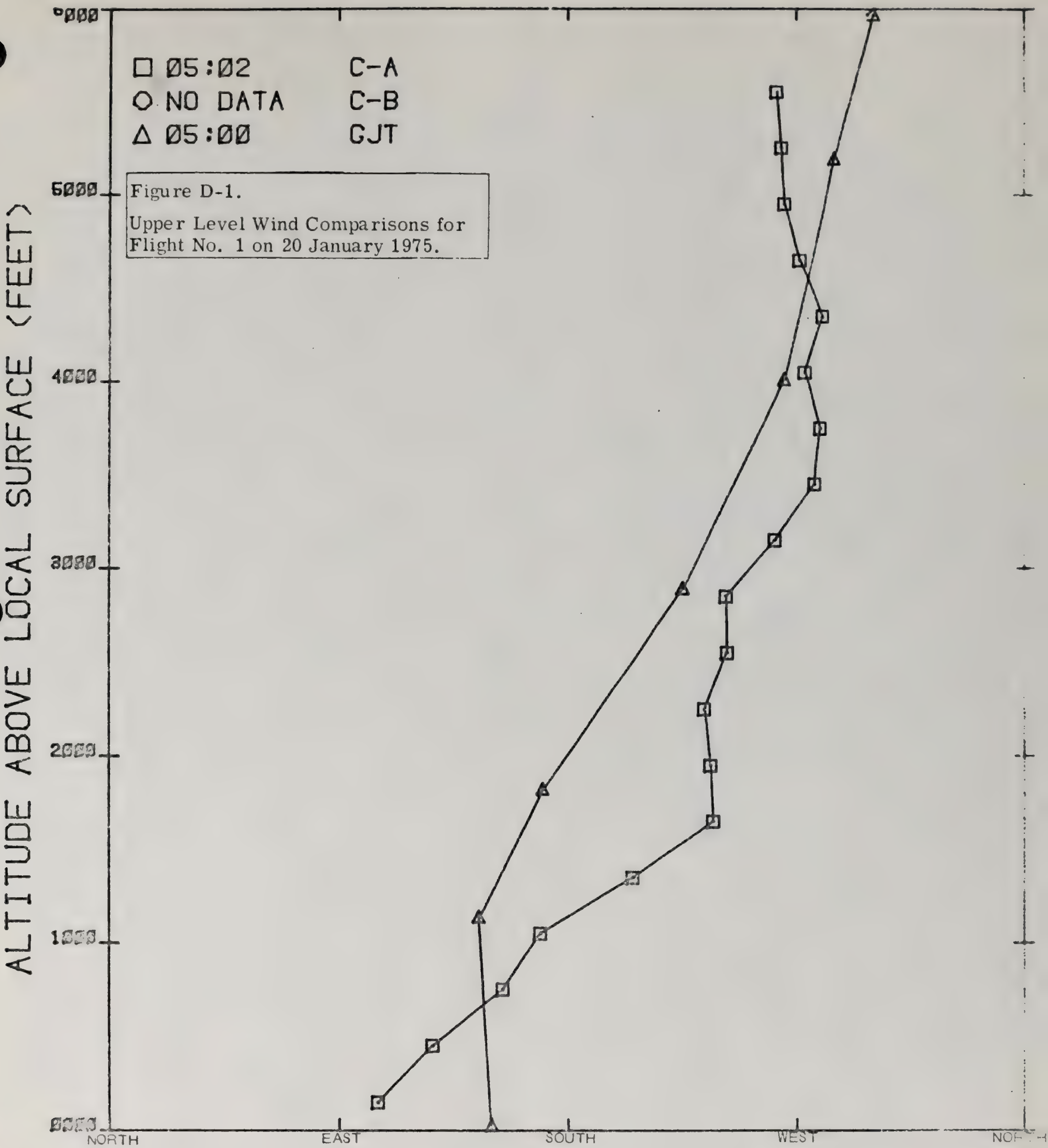


Figure D-1.

Upper Level Wind Comparisons for Flight No. 1 on 20 January 1975.

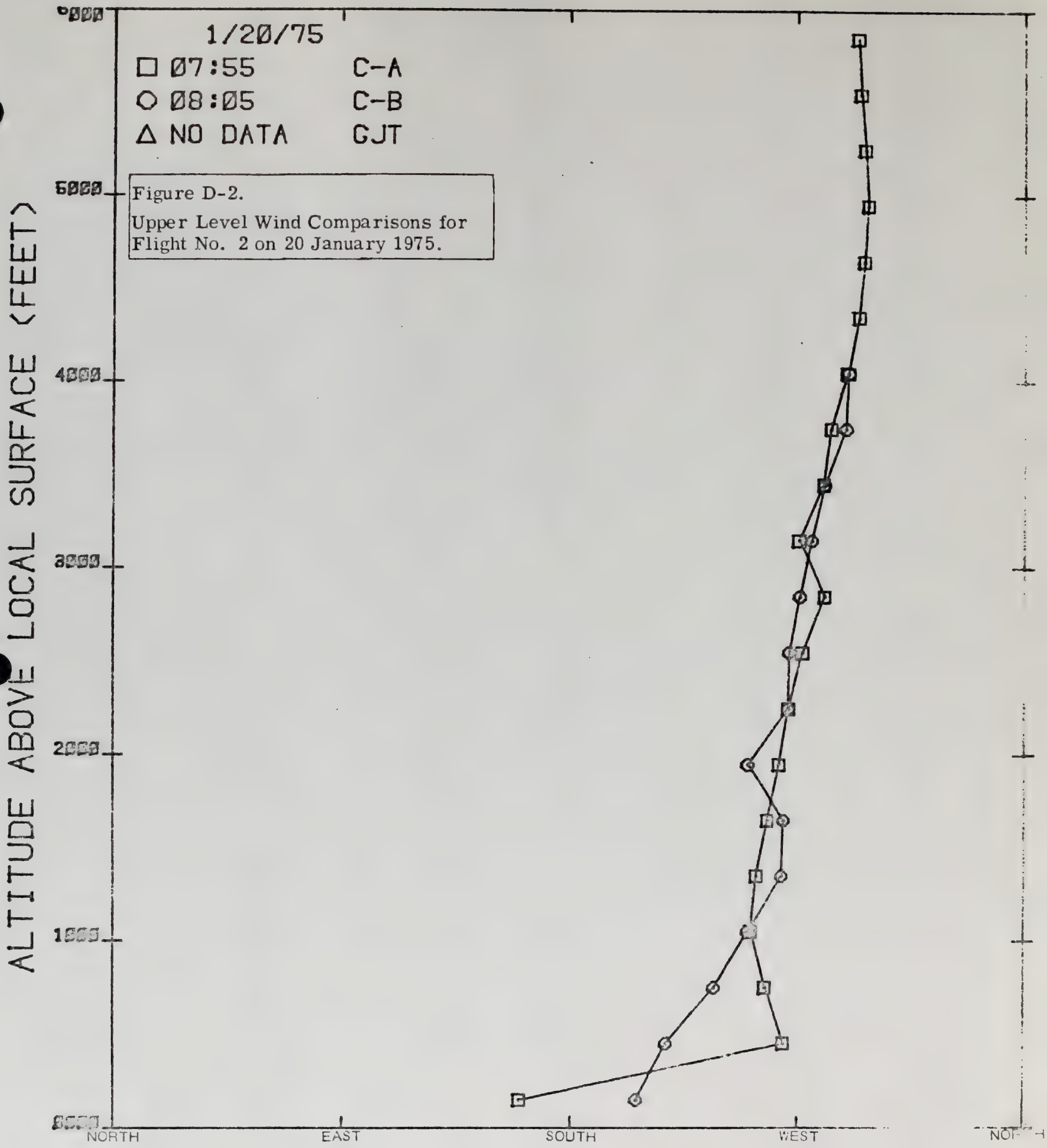


Figure D-2.
Upper Level Wind Comparisons for Flight No. 2 on 20 January 1975.

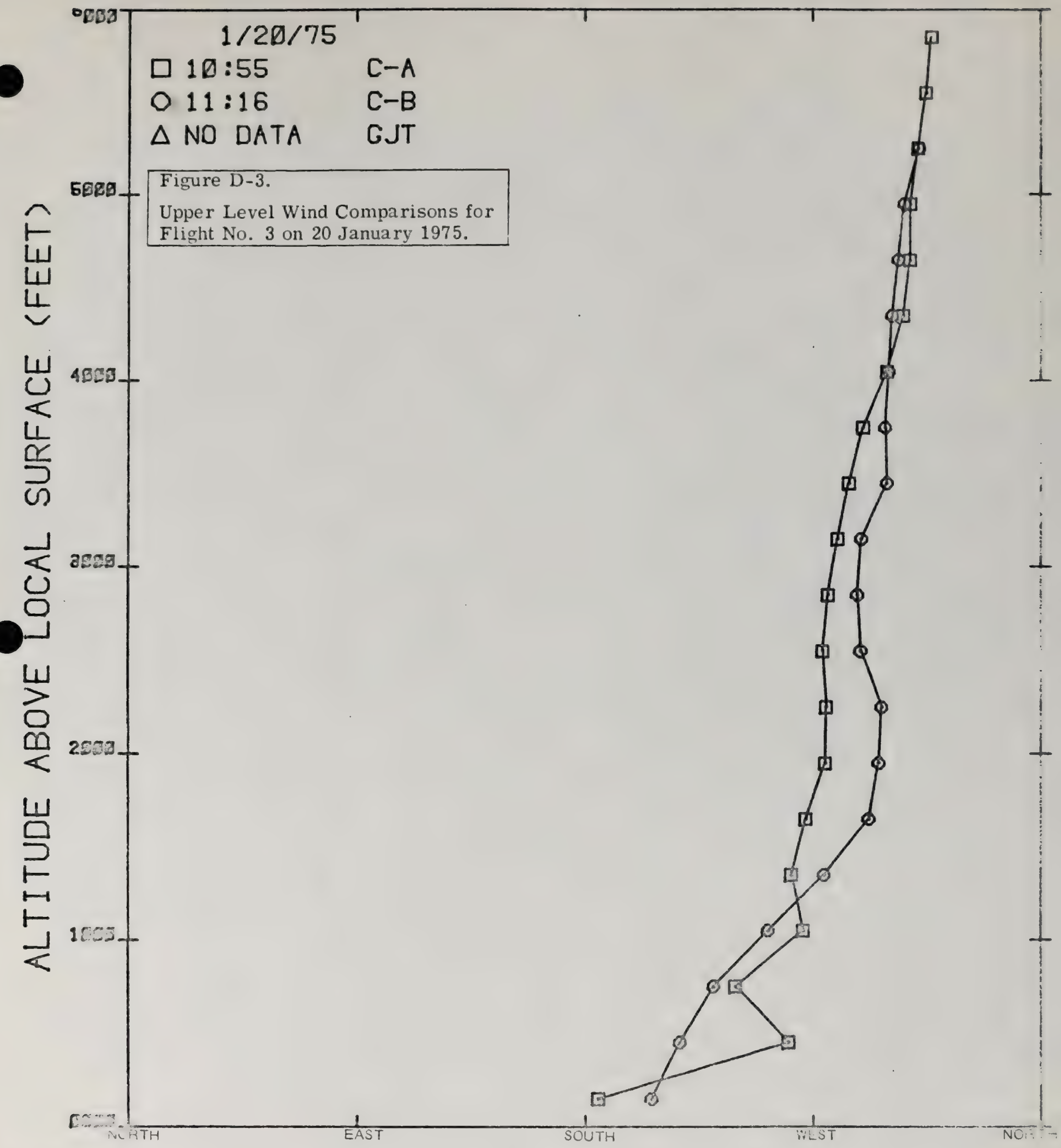


Figure D-3.

Upper Level Wind Comparisons for Flight No. 3 on 20 January 1975.

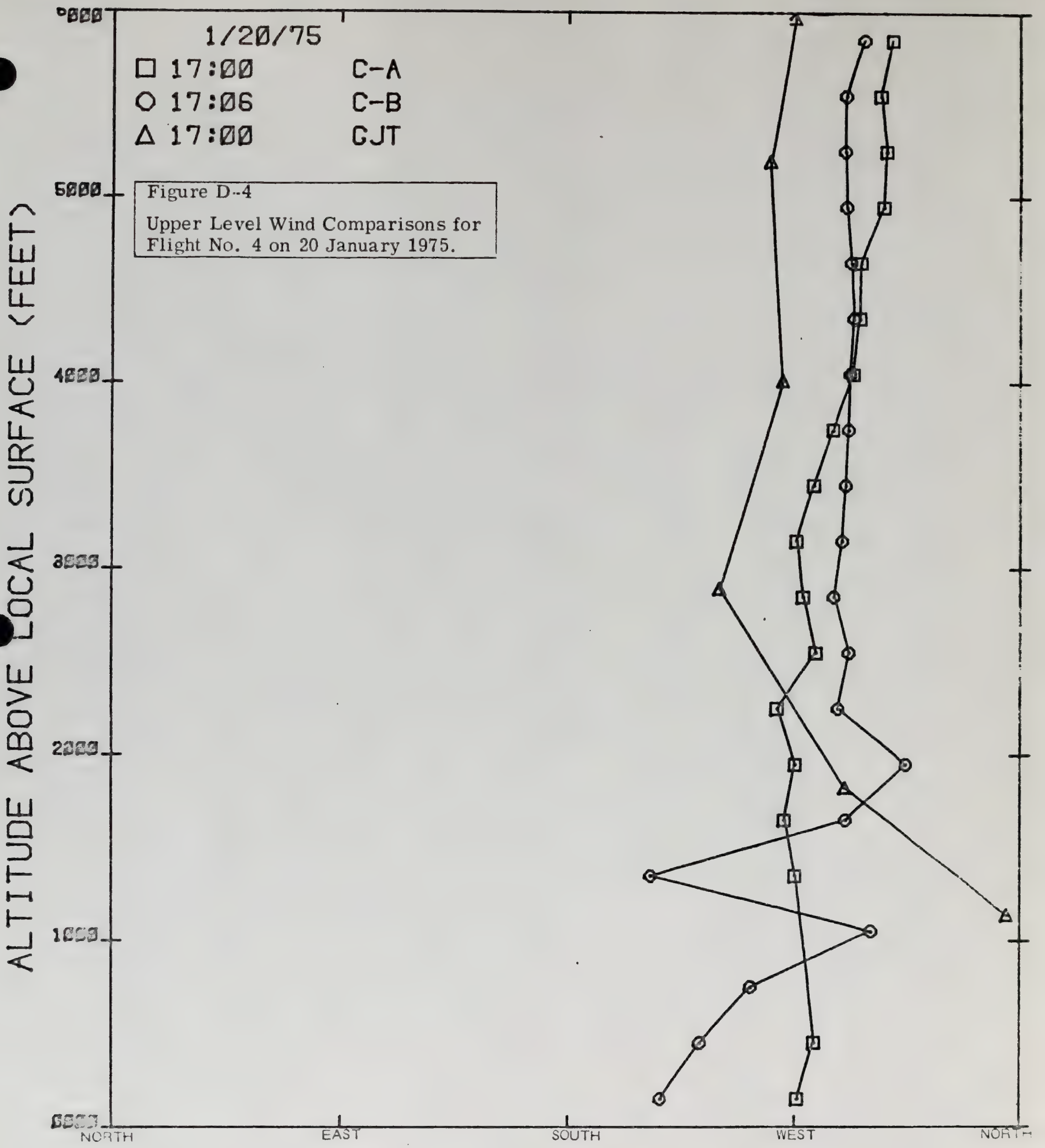


Figure D-4

Upper Level Wind Comparisons for Flight No. 4 on 20 January 1975.

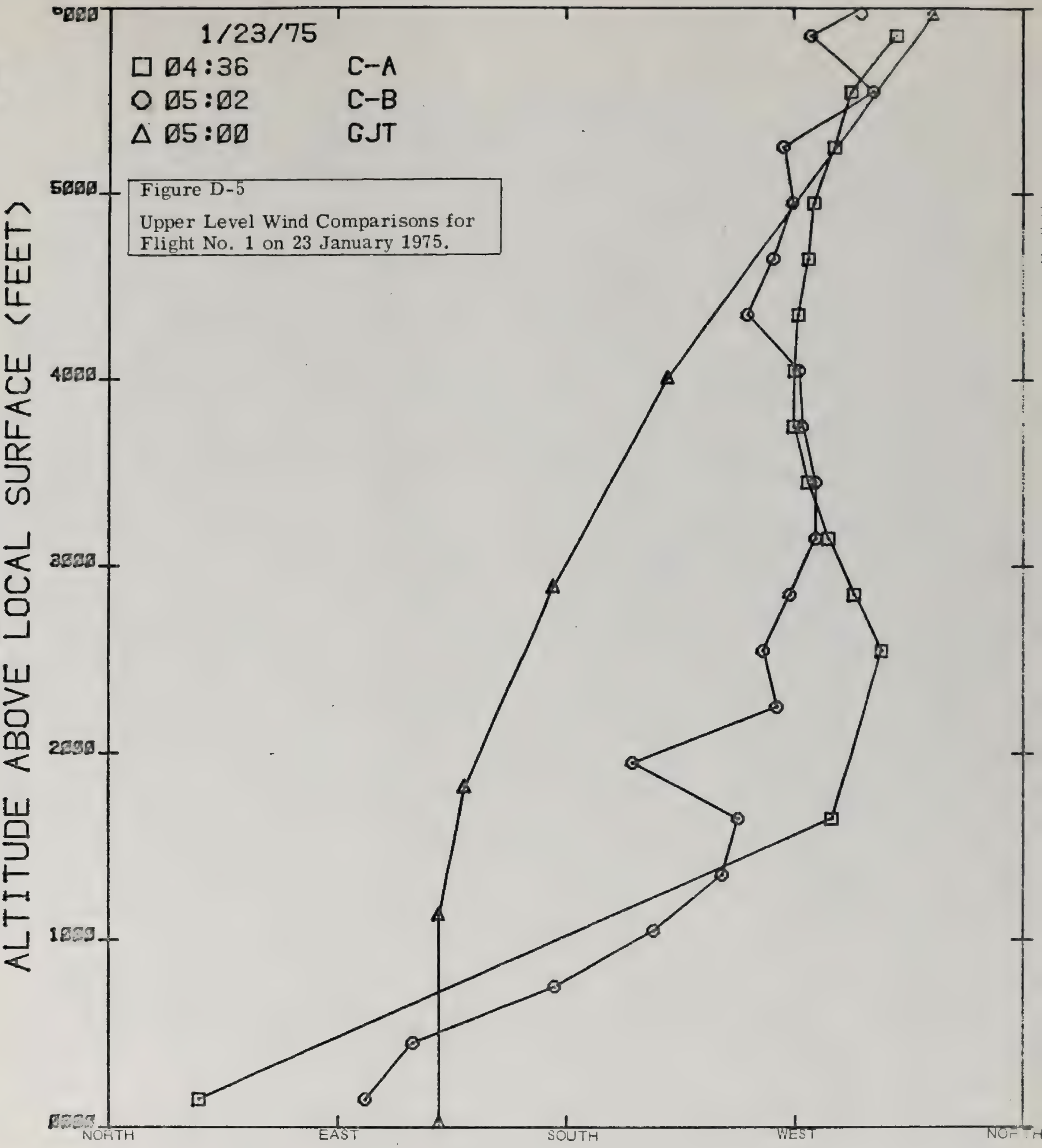


Figure D-5

Upper Level Wind Comparisons for Flight No. 1 on 23 January 1975.

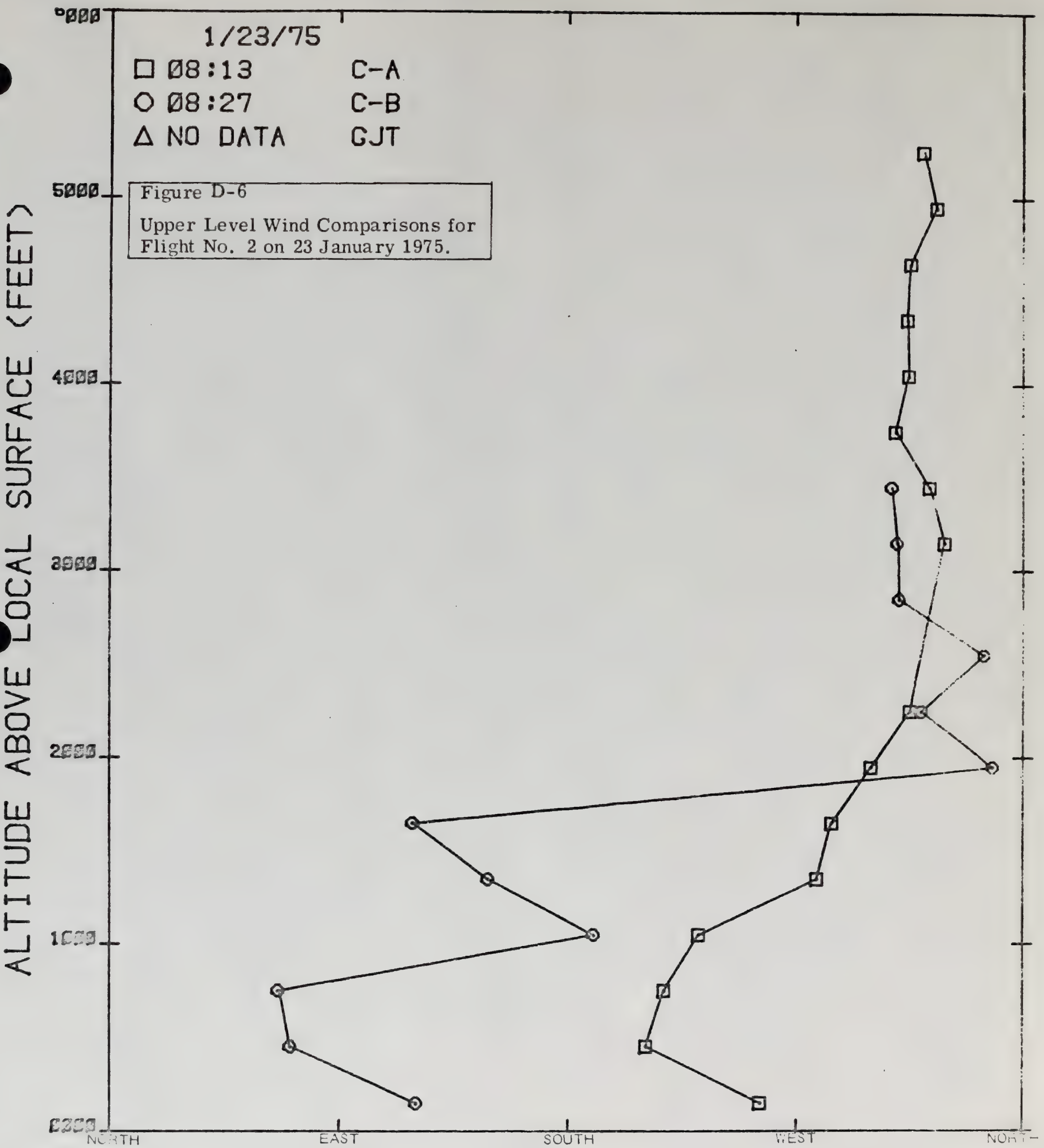


Figure D-6

Upper Level Wind Comparisons for Flight No. 2 on 23 January 1975.

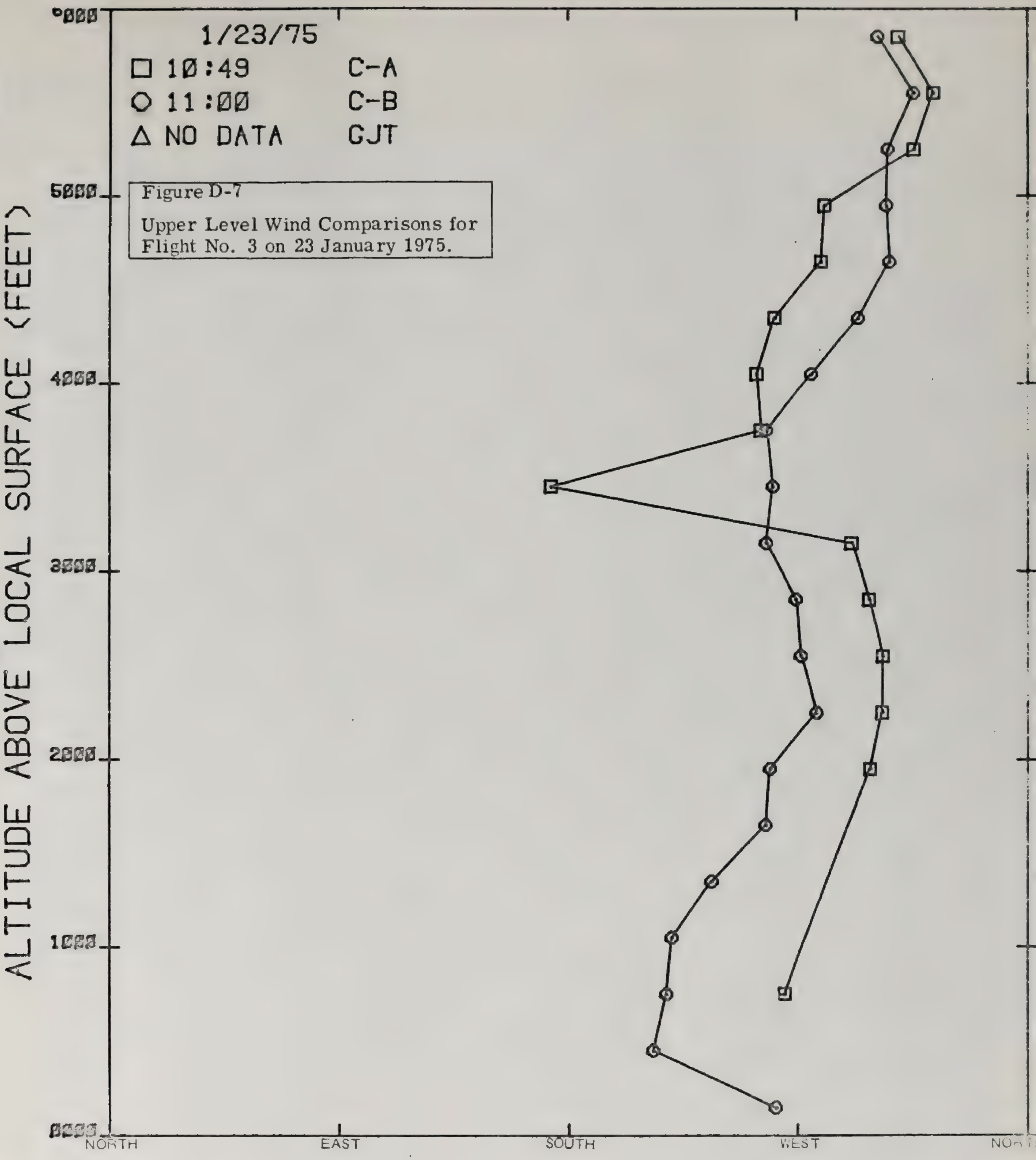


Figure D-7

Upper Level Wind Comparisons for Flight No. 3 on 23 January 1975.

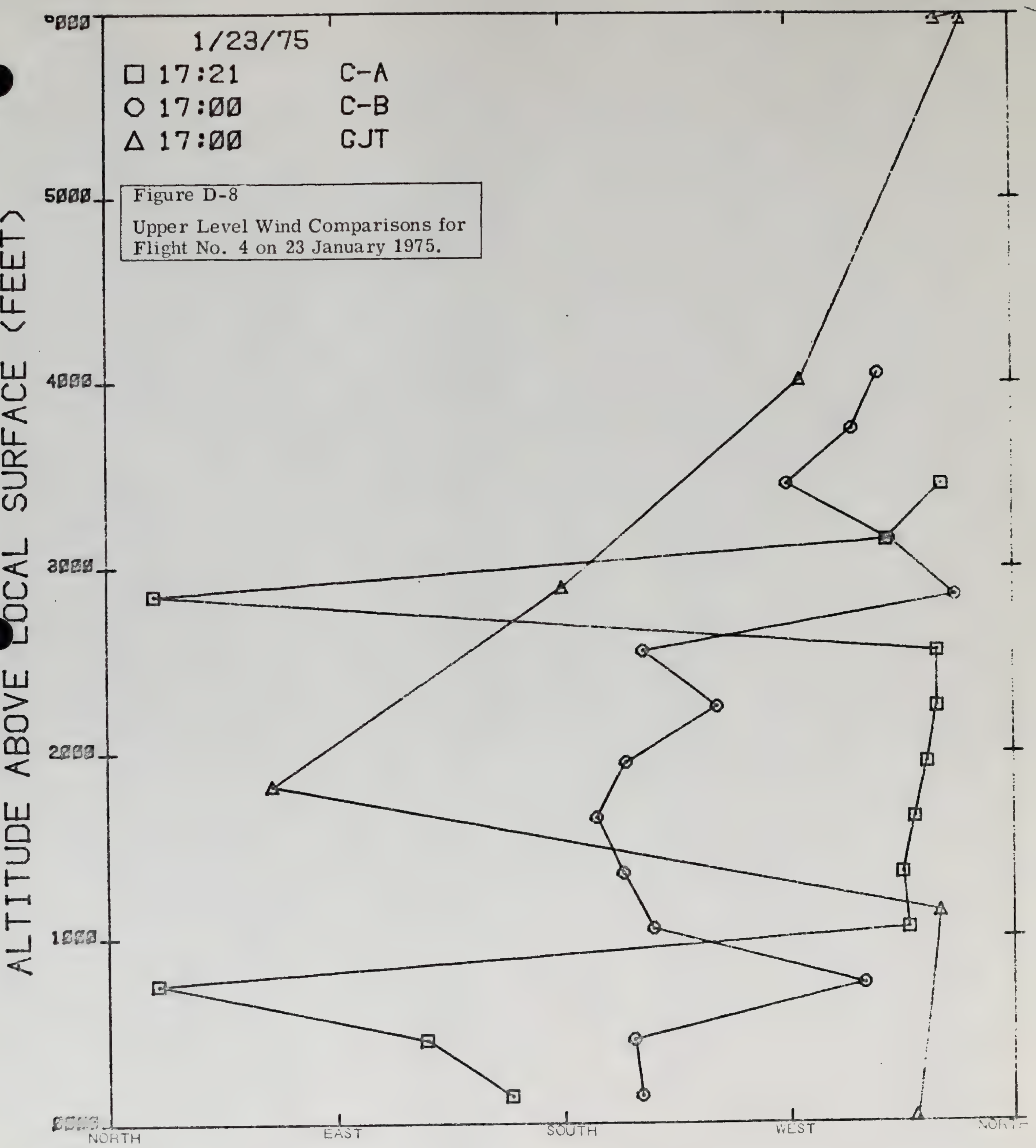


Figure D-8

Upper Level Wind Comparisons for Flight No. 4 on 23 January 1975.

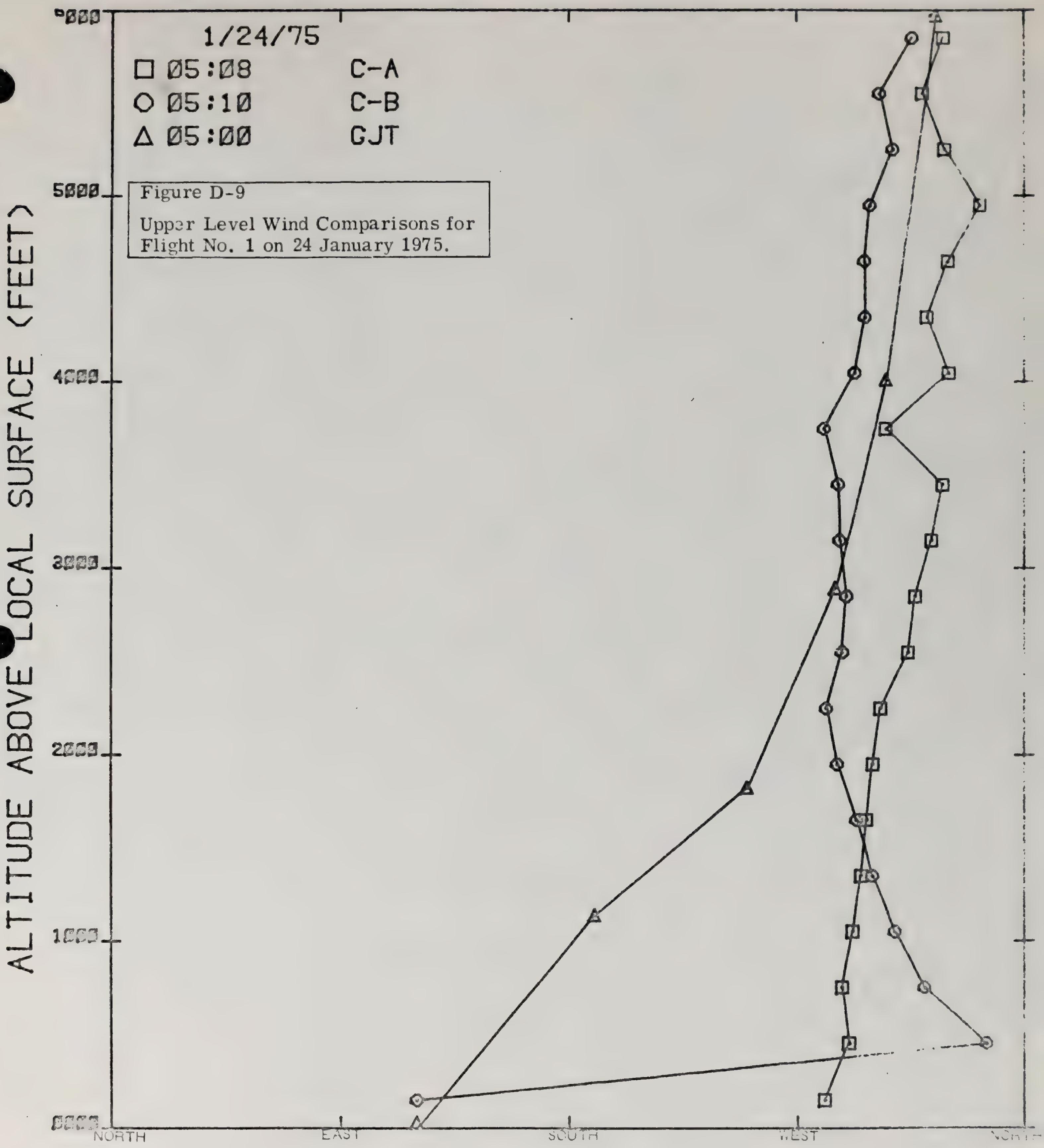


Figure D-9

Upper Level Wind Comparisons for Flight No. 1 on 24 January 1975.

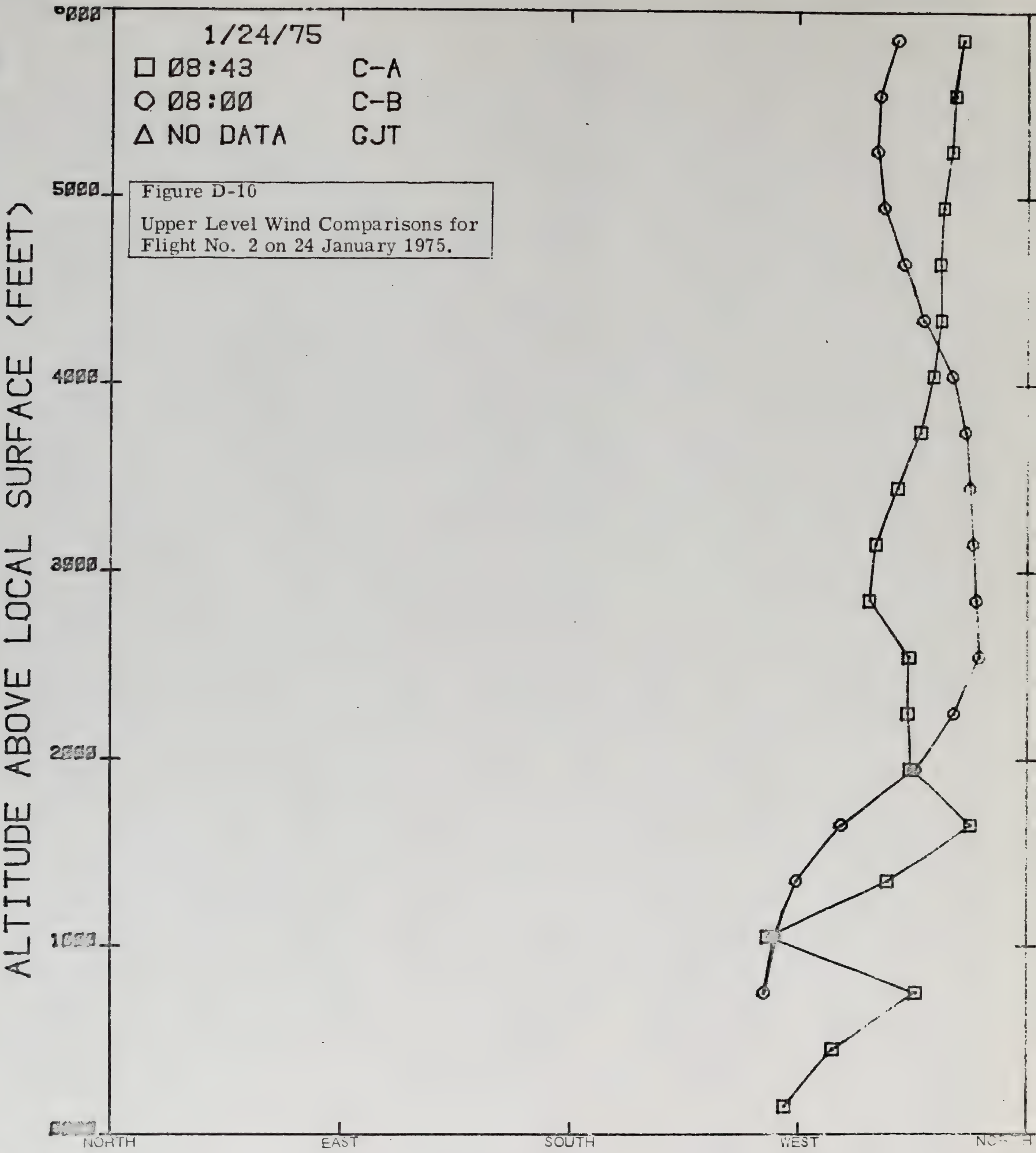


Figure D-10

Upper Level Wind Comparisons for Flight No. 2 on 24 January 1975.

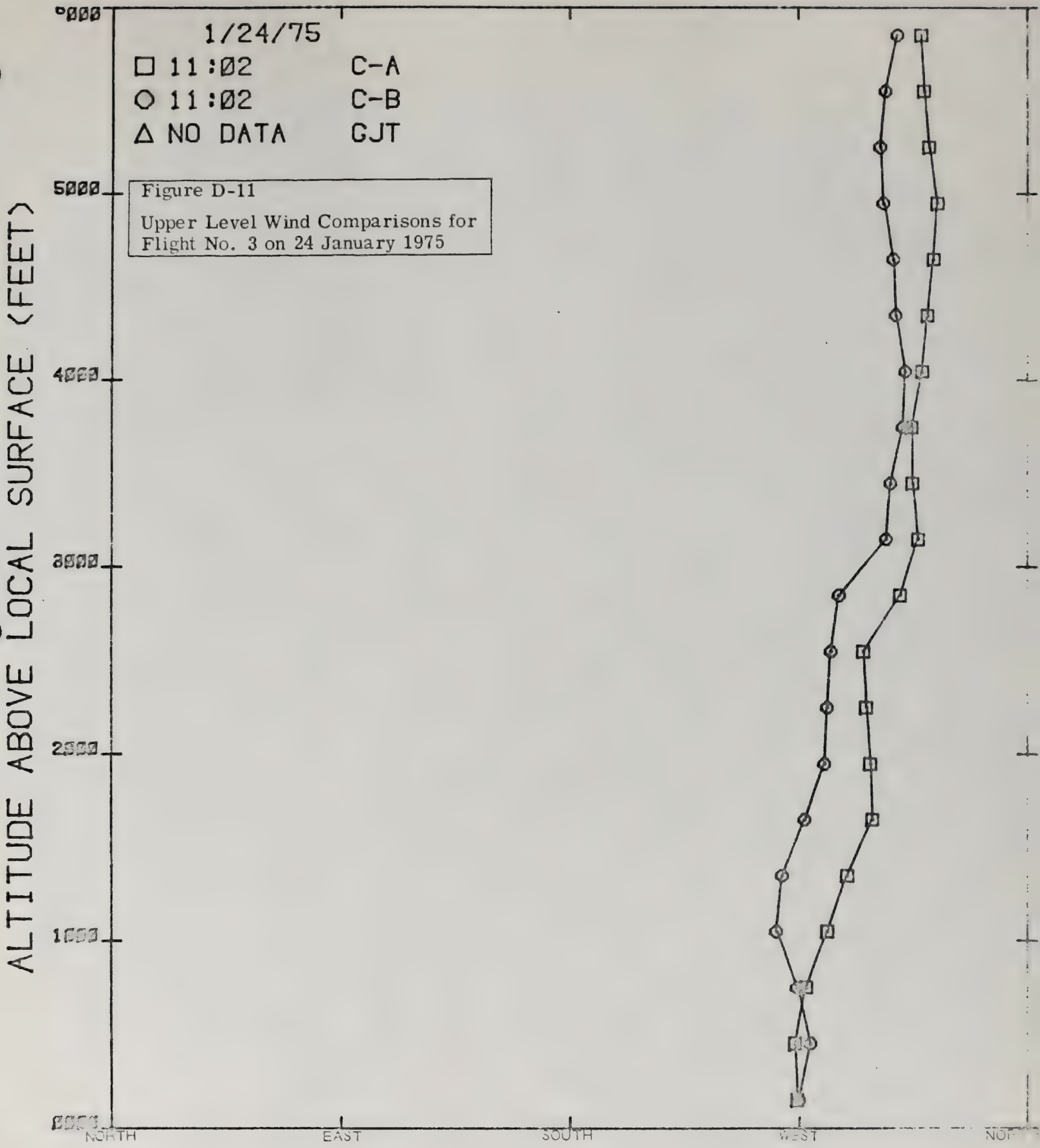


Figure D-11

Upper Level Wind Comparisons for Flight No. 3 on 24 January 1975

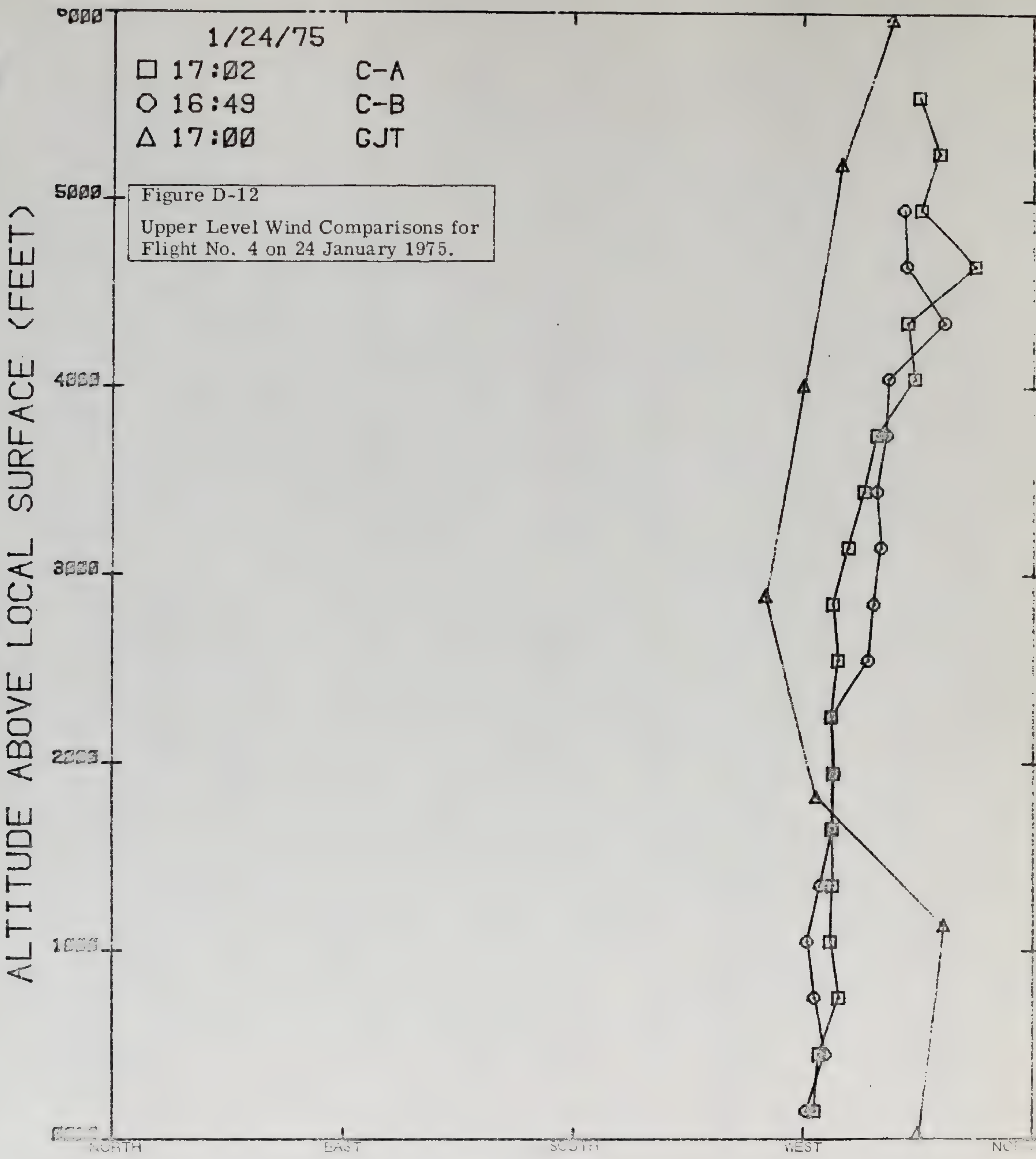


Figure D-12

Upper Level Wind Comparisons for Flight No. 4 on 24 January 1975.

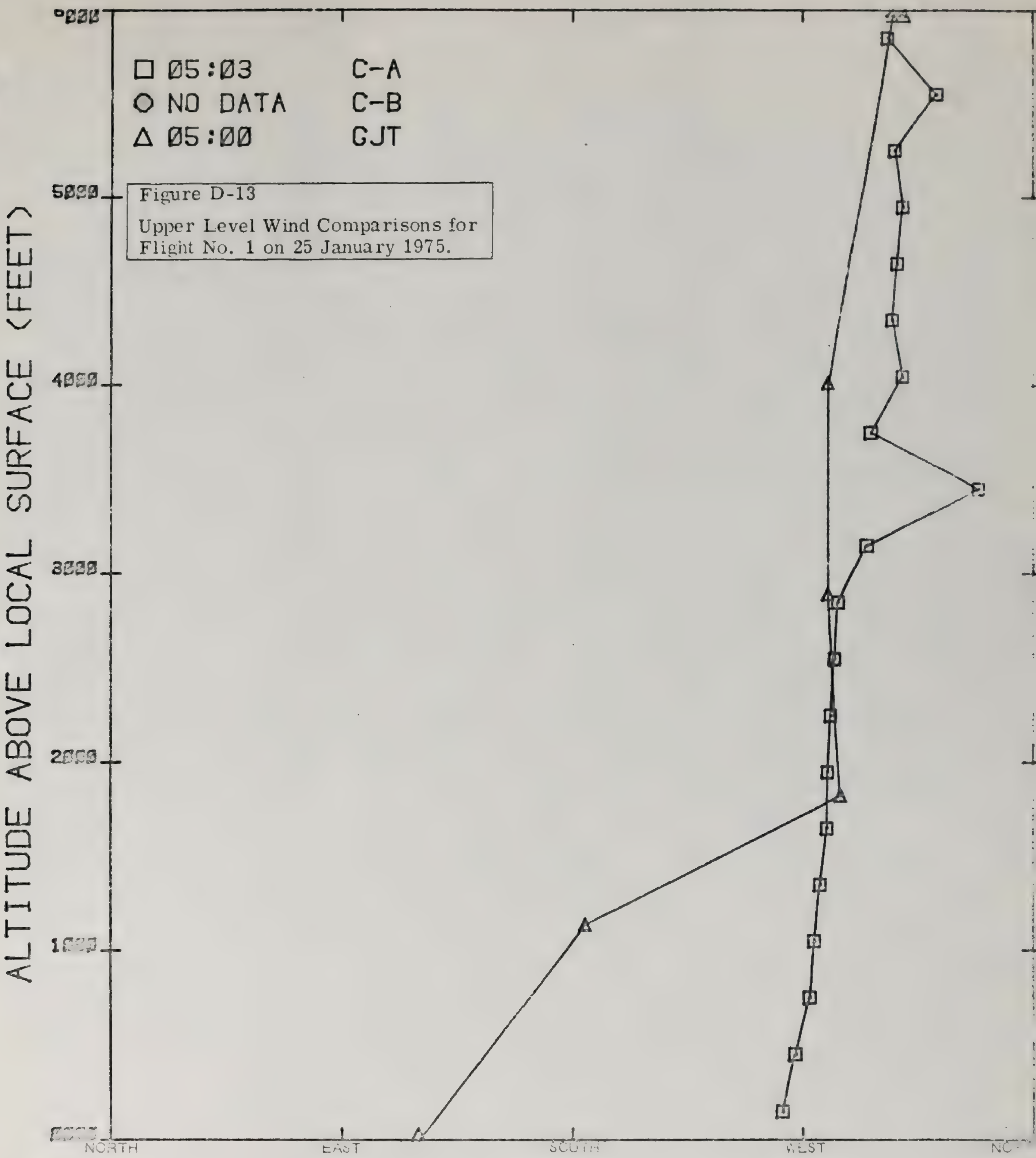


Figure D-13

Upper Level Wind Comparisons for Flight No. 1 on 25 January 1975.

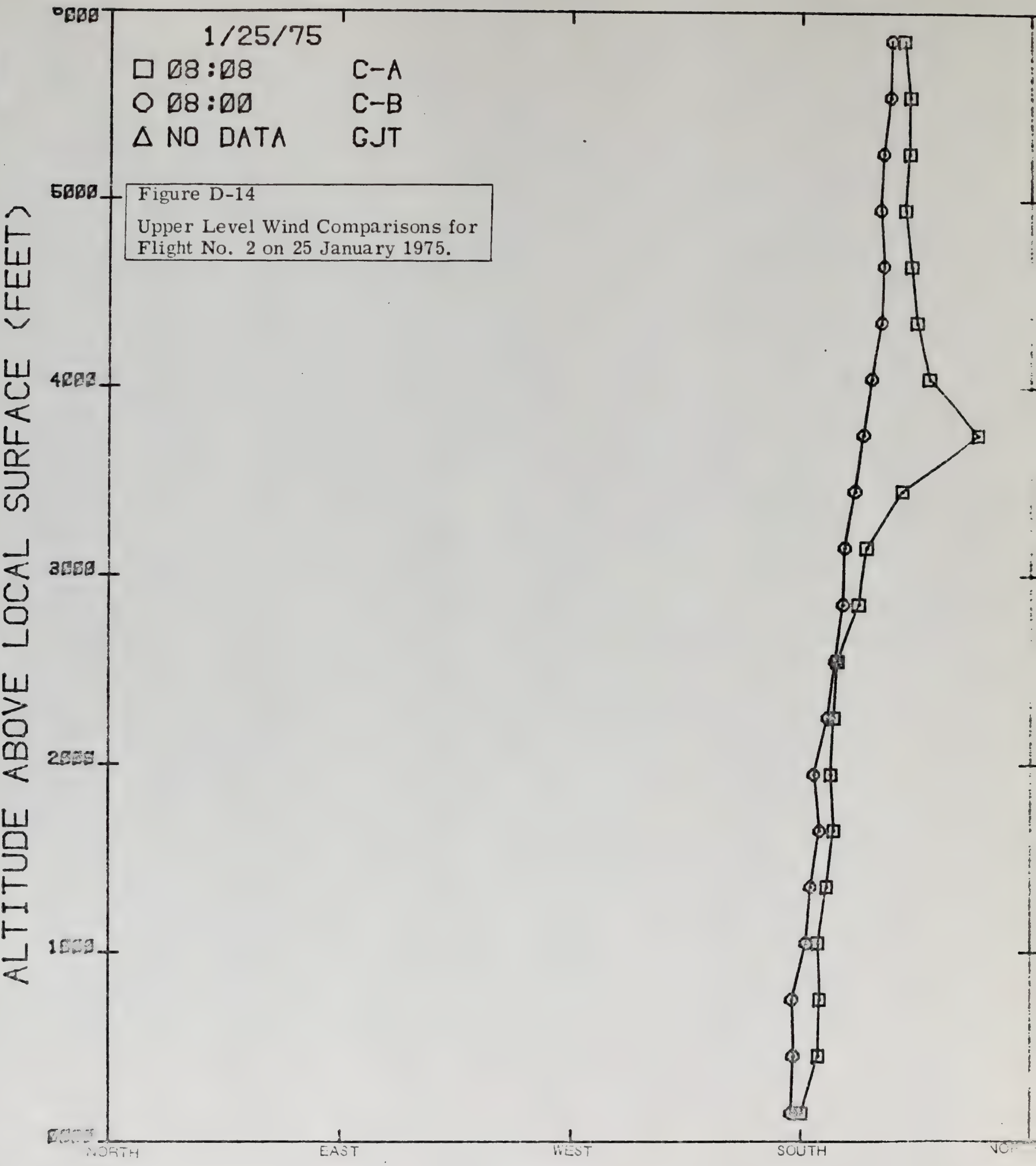


Figure D-14

Upper Level Wind Comparisons for Flight No. 2 on 25 January 1975.

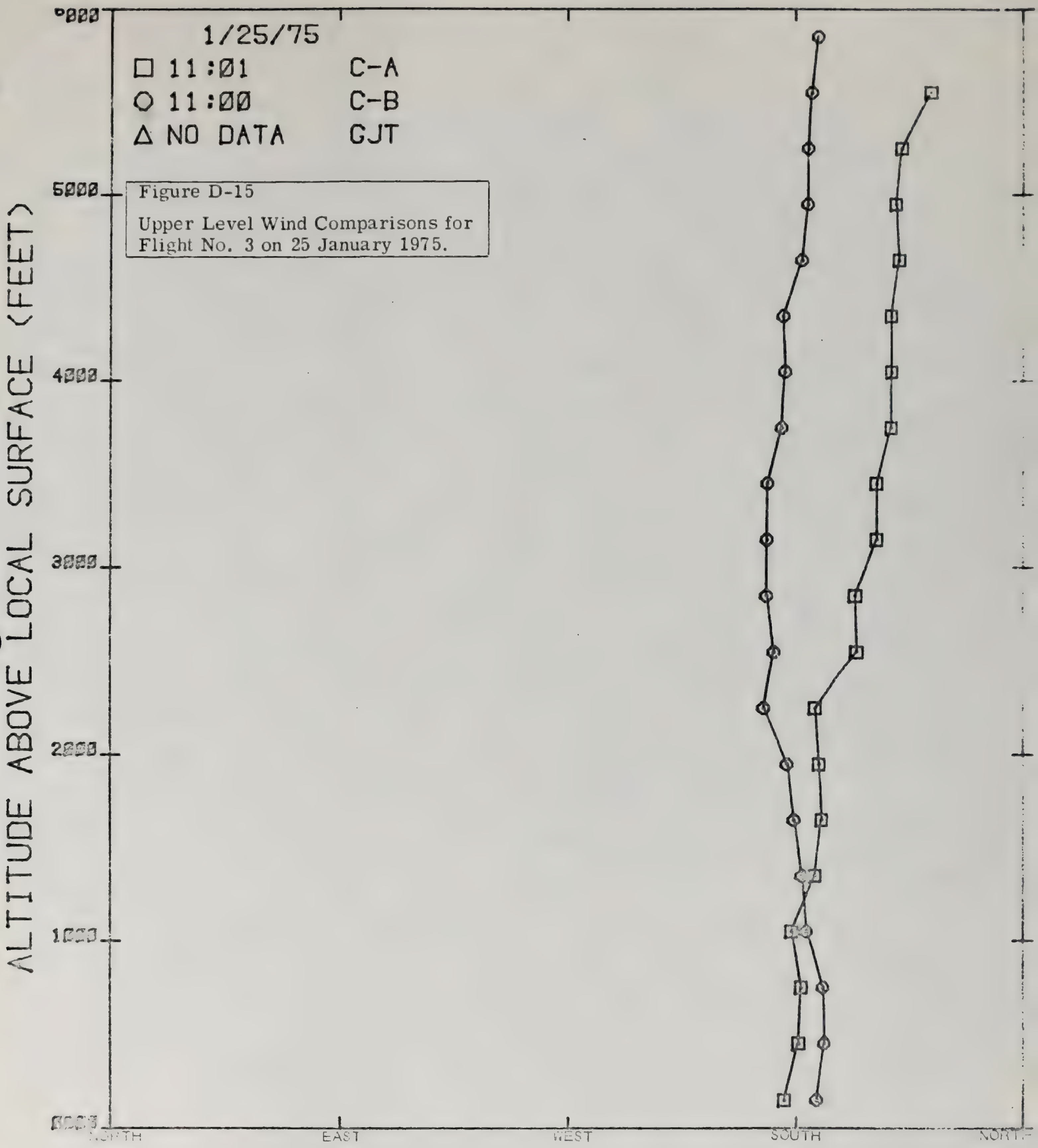


Figure D-15

Upper Level Wind Comparisons for Flight No. 3 on 25 January 1975.

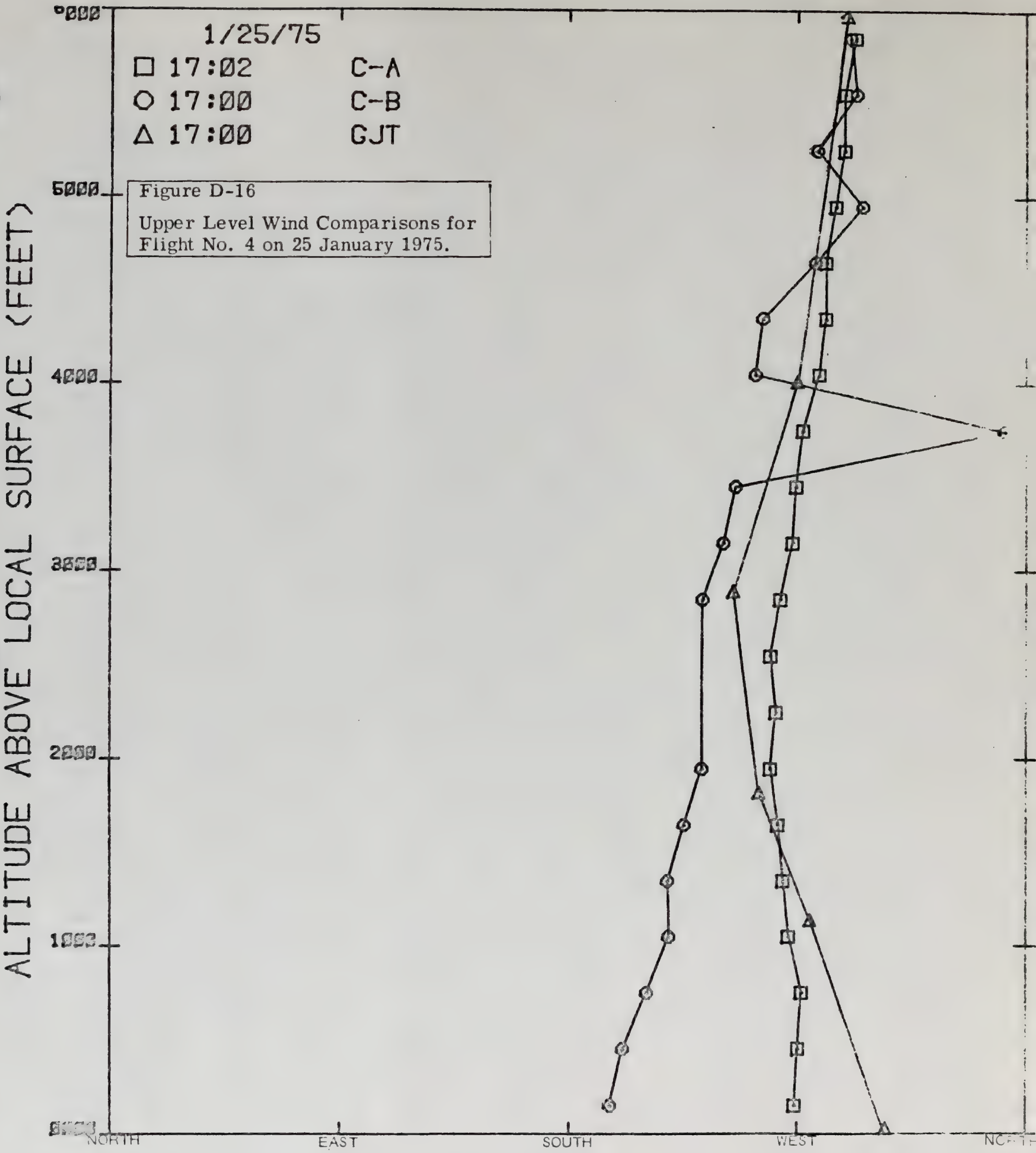


Figure D-16

Upper Level Wind Comparisons for Flight No. 4 on 25 January 1975.

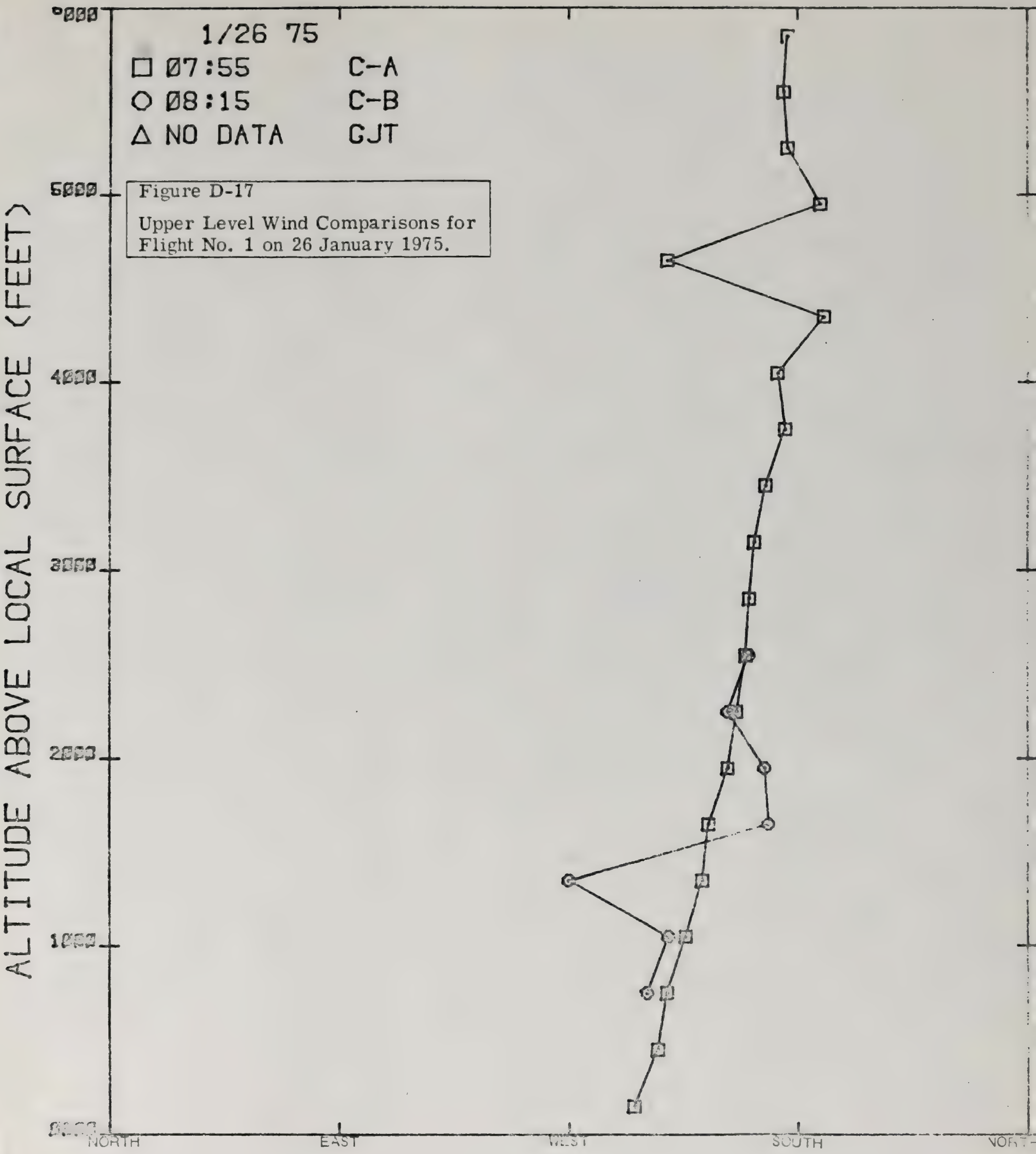


Figure D-17

Upper Level Wind Comparisons for Flight No. 1 on 26 January 1975.

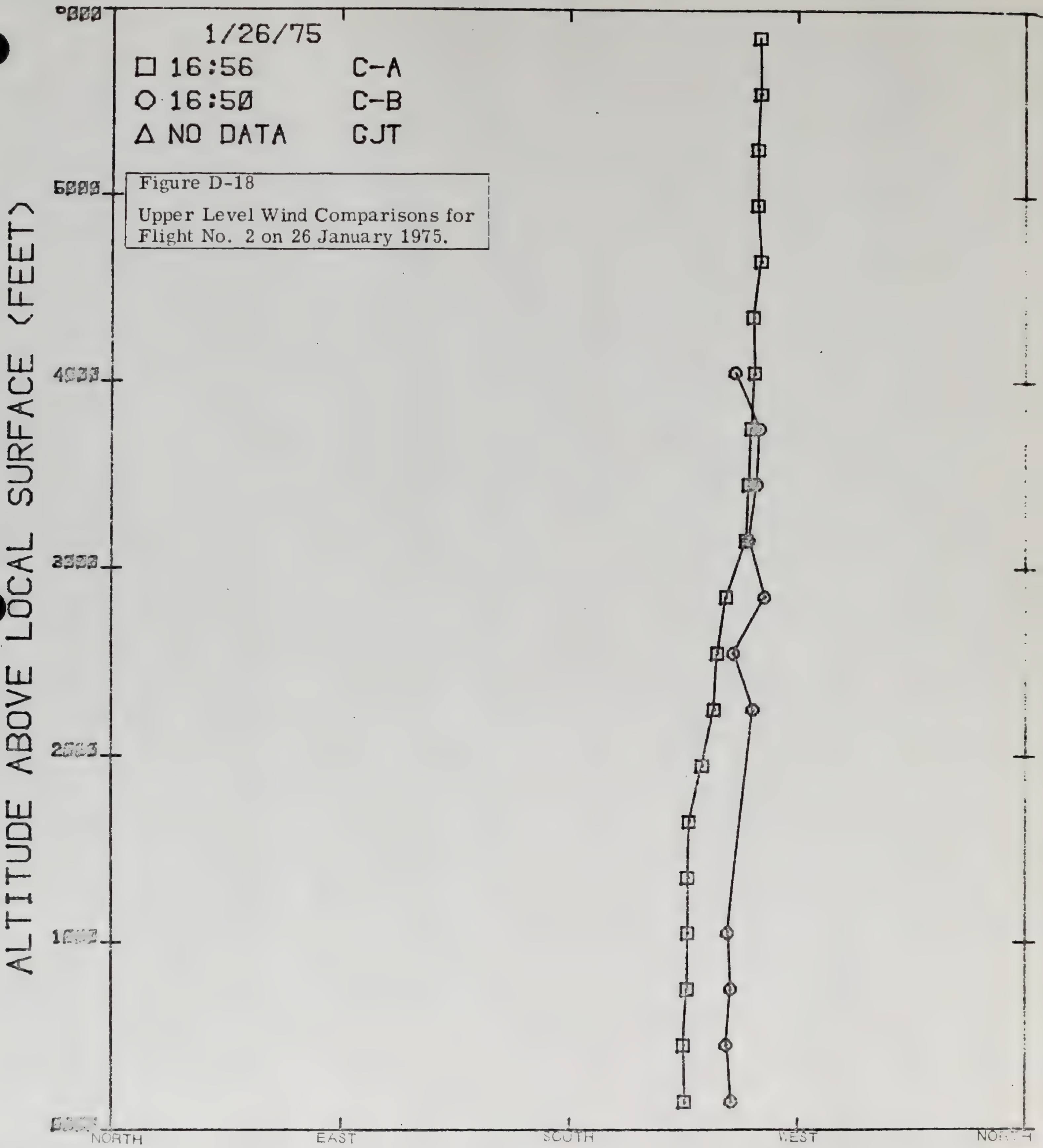


Figure D-18

Upper Level Wind Comparisons for Flight No. 2 on 26 January 1975.

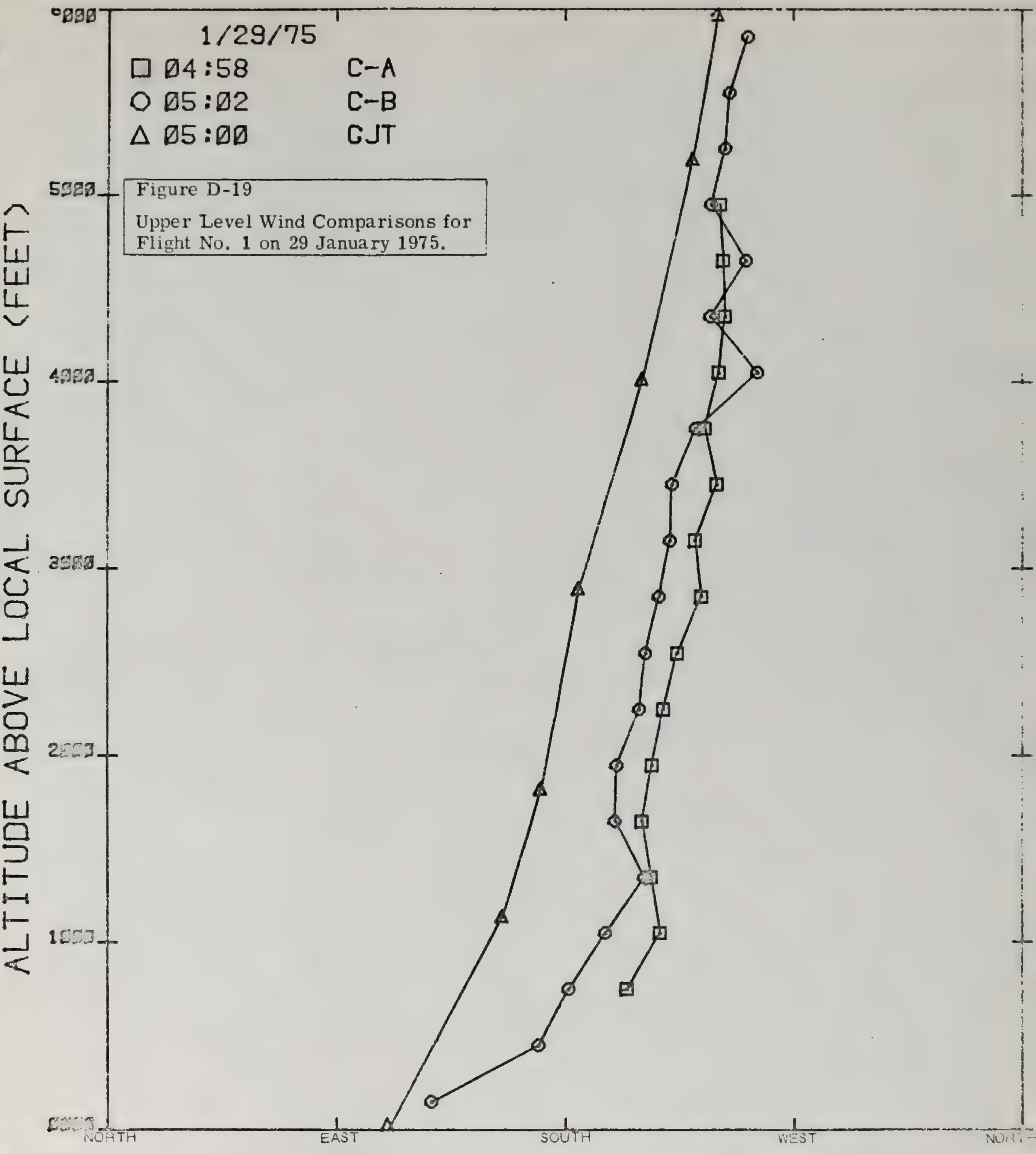


Figure D-19

Upper Level Wind Comparisons for Flight No. 1 on 29 January 1975.

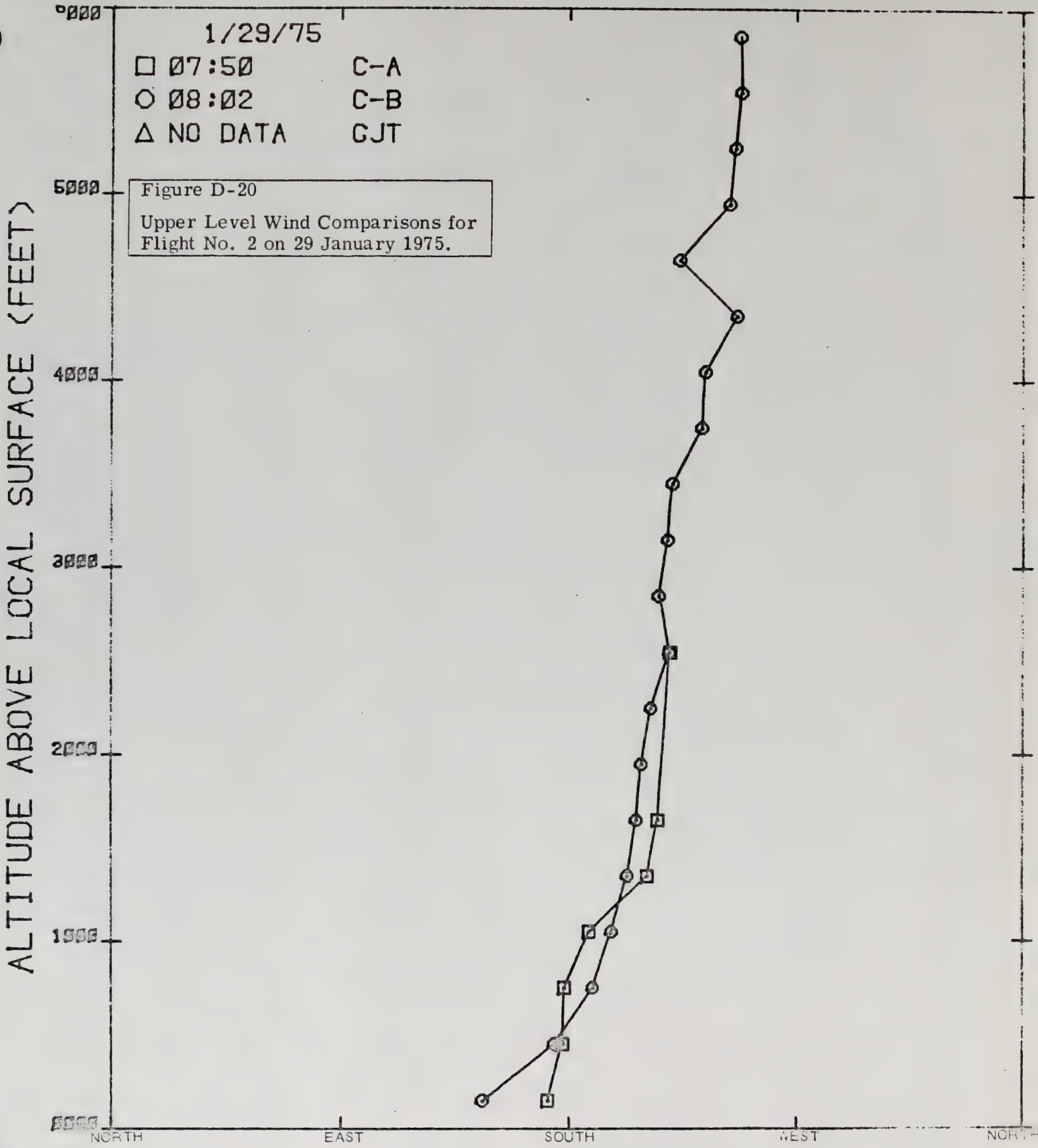


Figure D-20

Upper Level Wind Comparisons for Flight No. 2 on 29 January 1975.

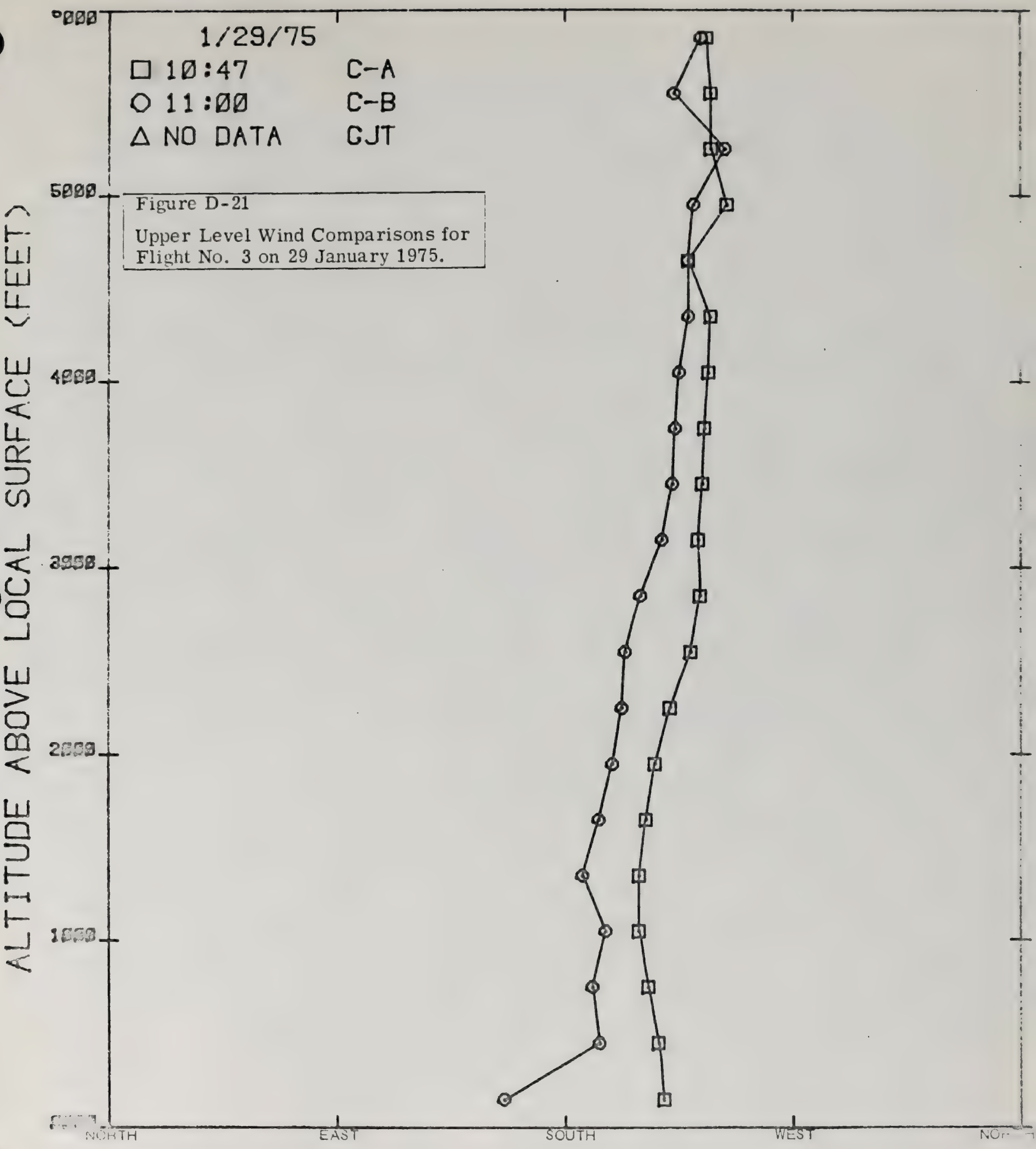


Figure D-21

Upper Level Wind Comparisons for Flight No. 3 on 29 January 1975.

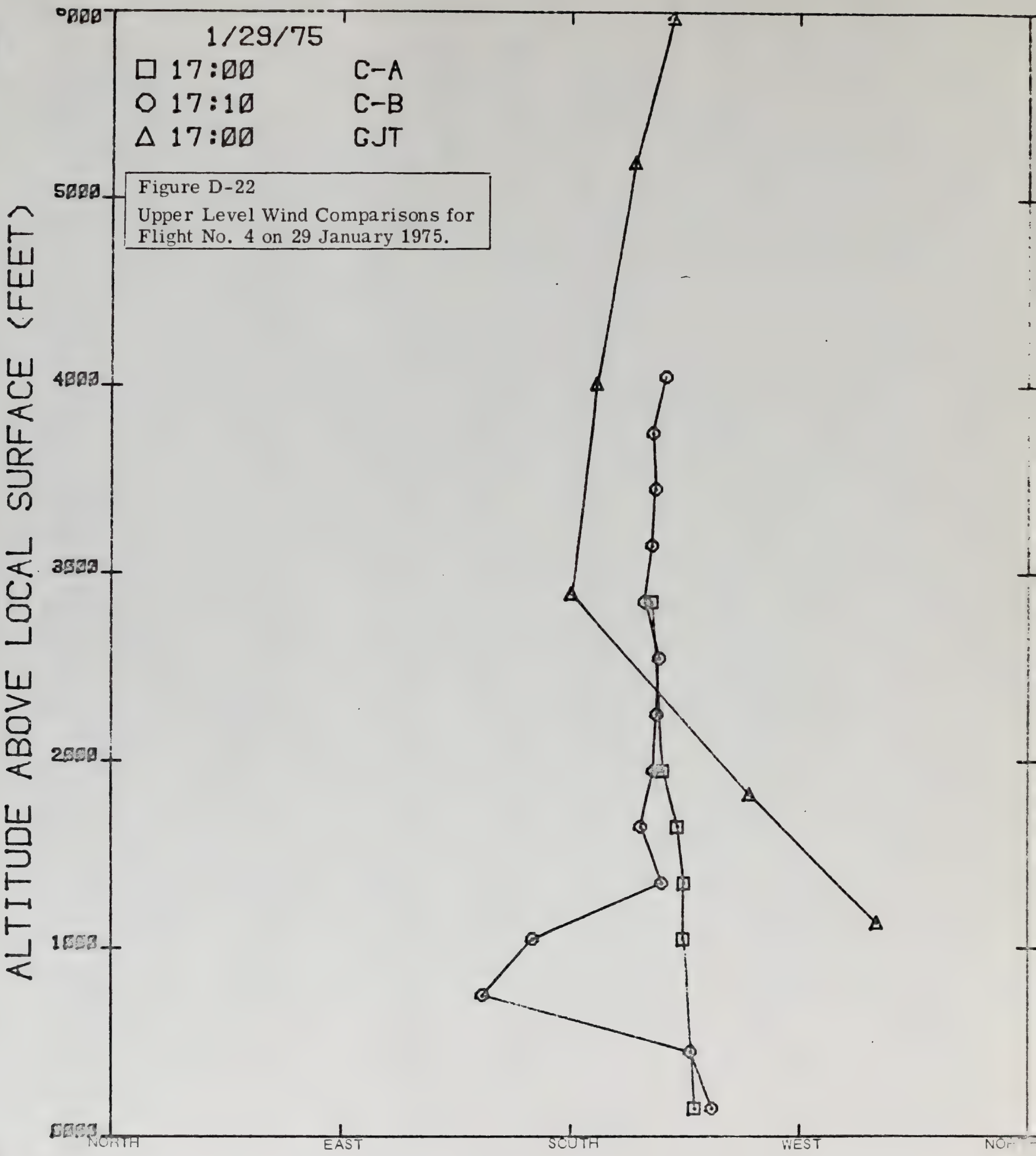


Figure D-22
Upper Level Wind Comparisons for Flight No. 4 on 29 January 1975.

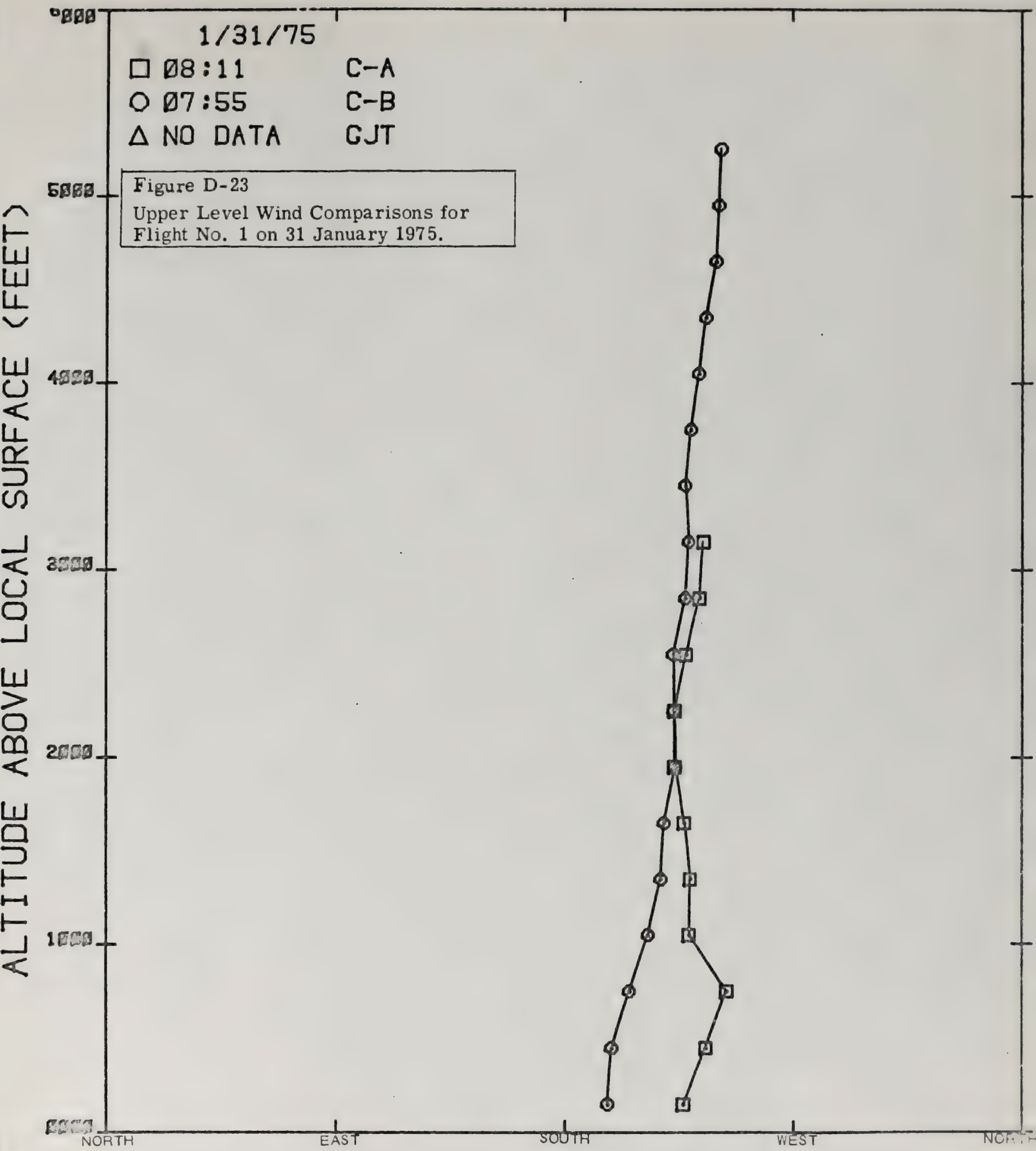


Figure D-23
Upper Level Wind Comparisons for Flight No. 1 on 31 January 1975.

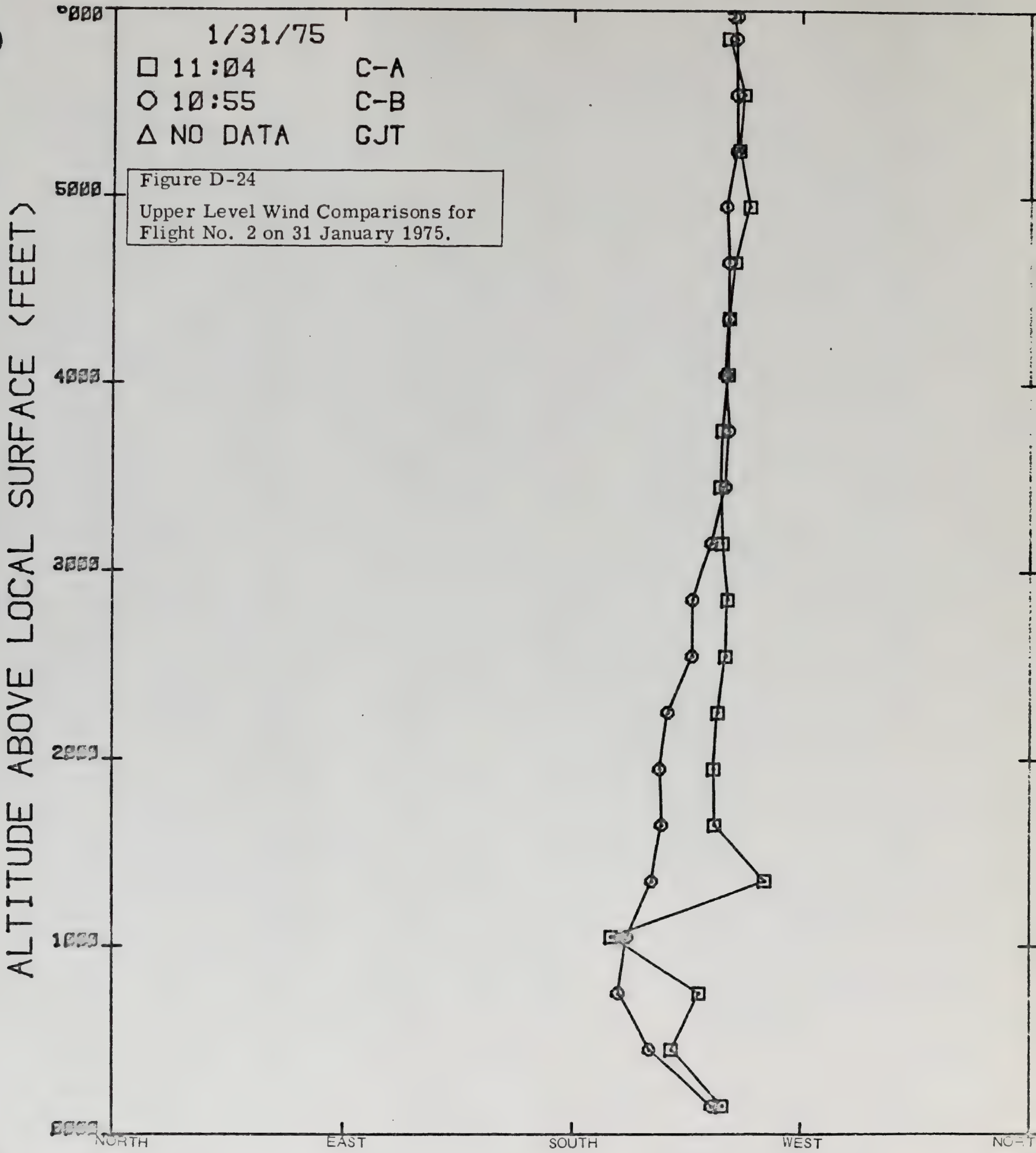


Figure D-24

Upper Level Wind Comparisons for Flight No. 2 on 31 January 1975.

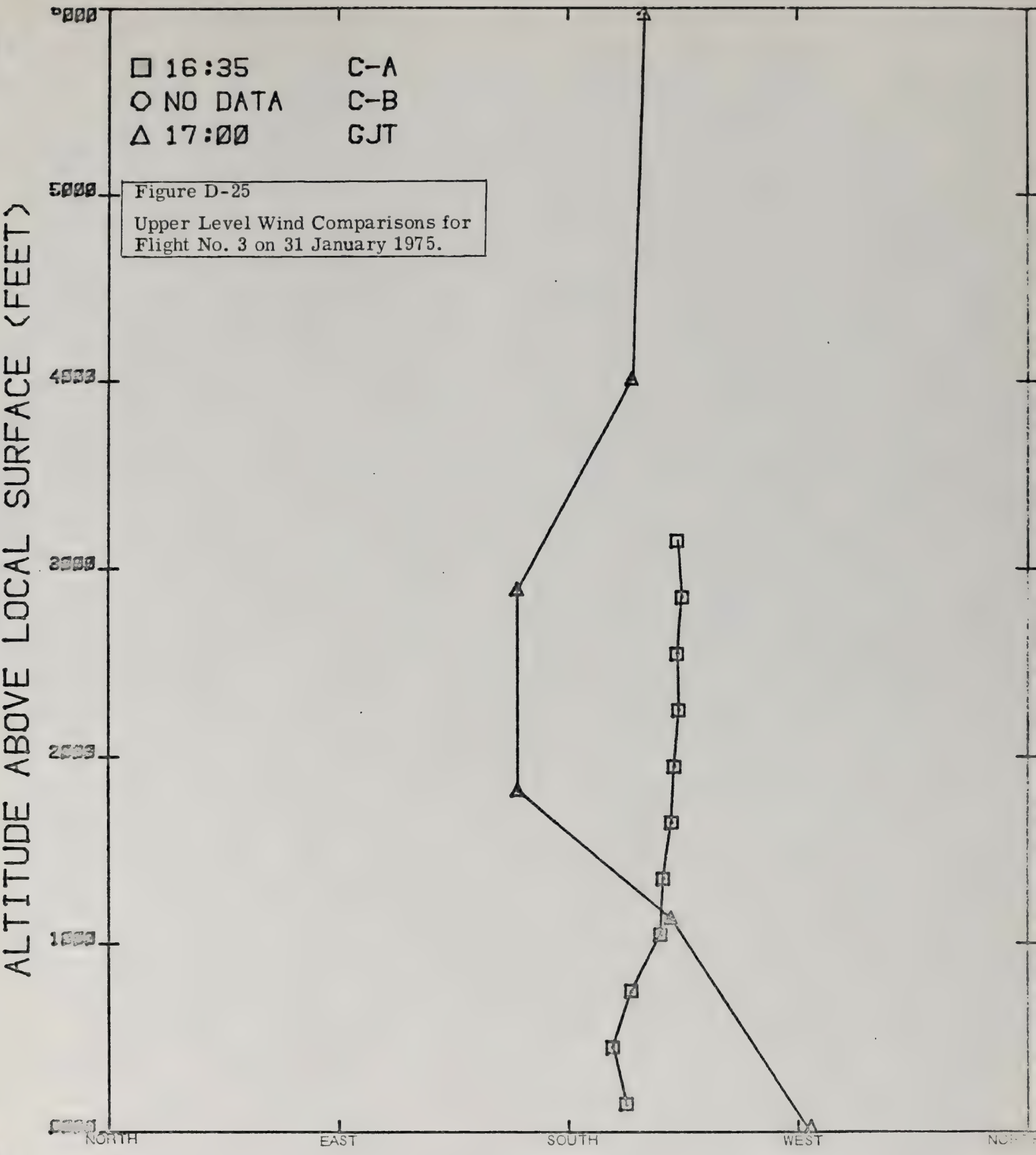


Figure D-25

Upper Level Wind Comparisons for Flight No. 3 on 31 January 1975.

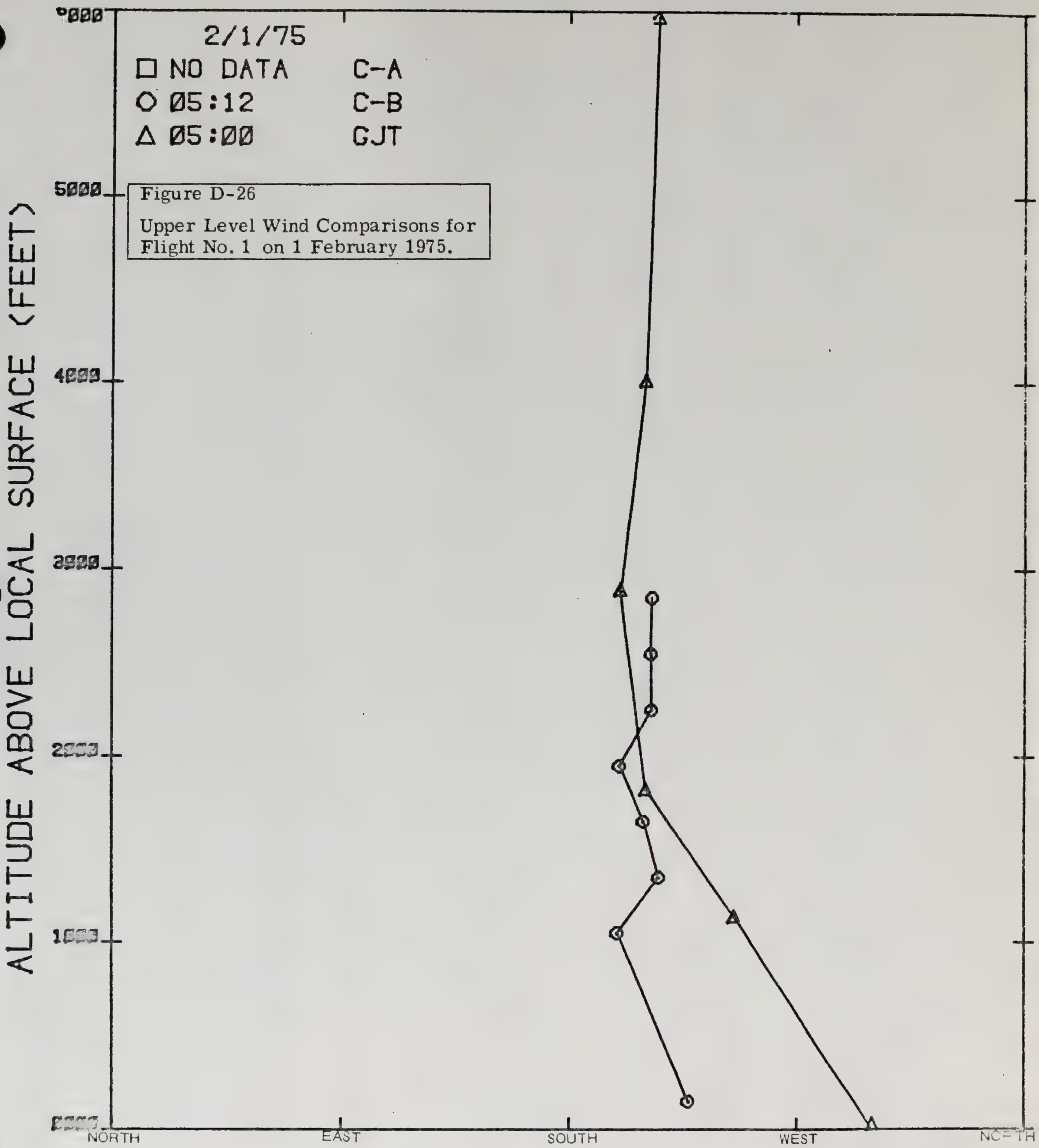


Figure D-26

Upper Level Wind Comparisons for Flight No. 1 on 1 February 1975.

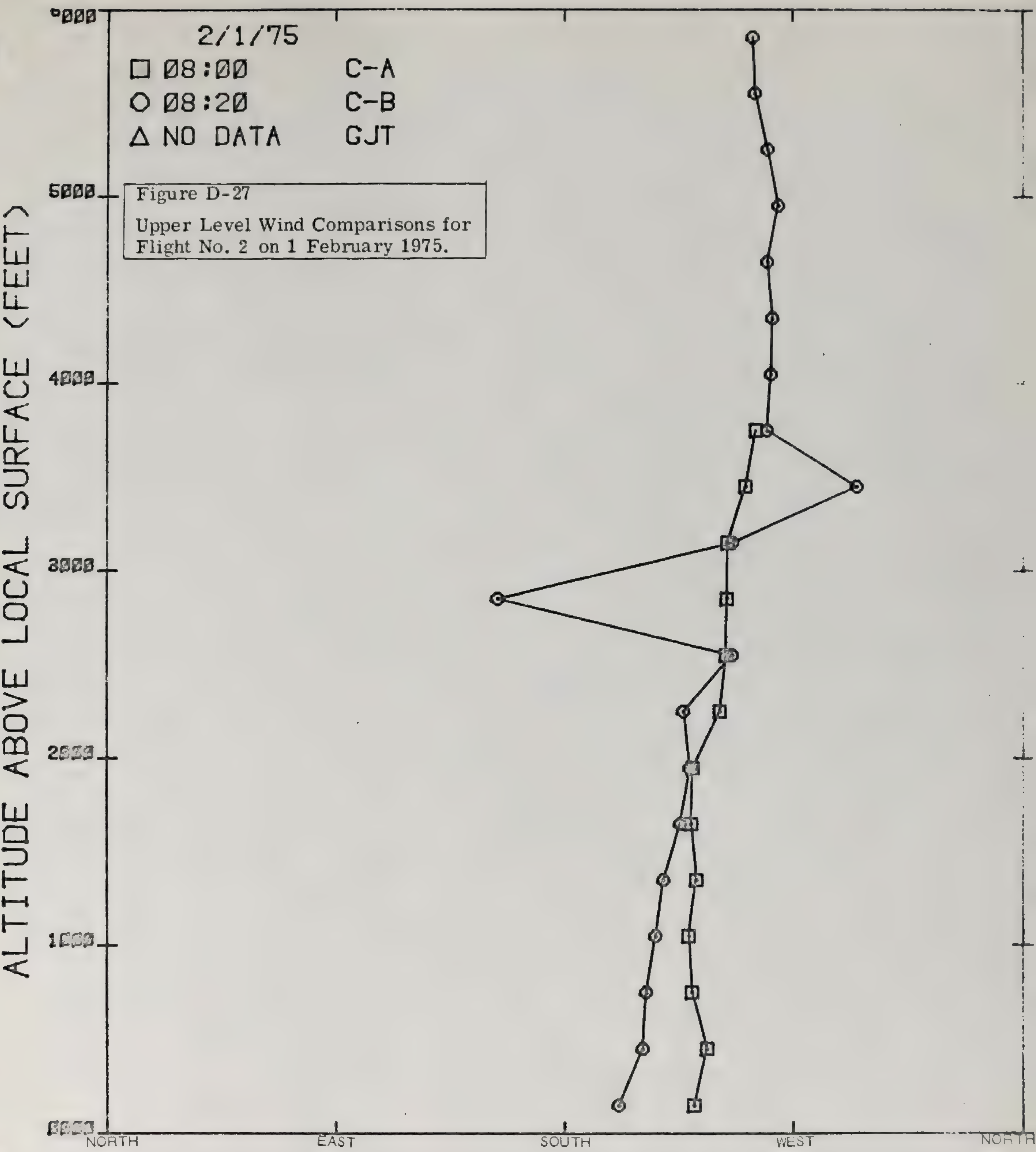


Figure D-27

Upper Level Wind Comparisons for Flight No. 2 on 1 February 1975.

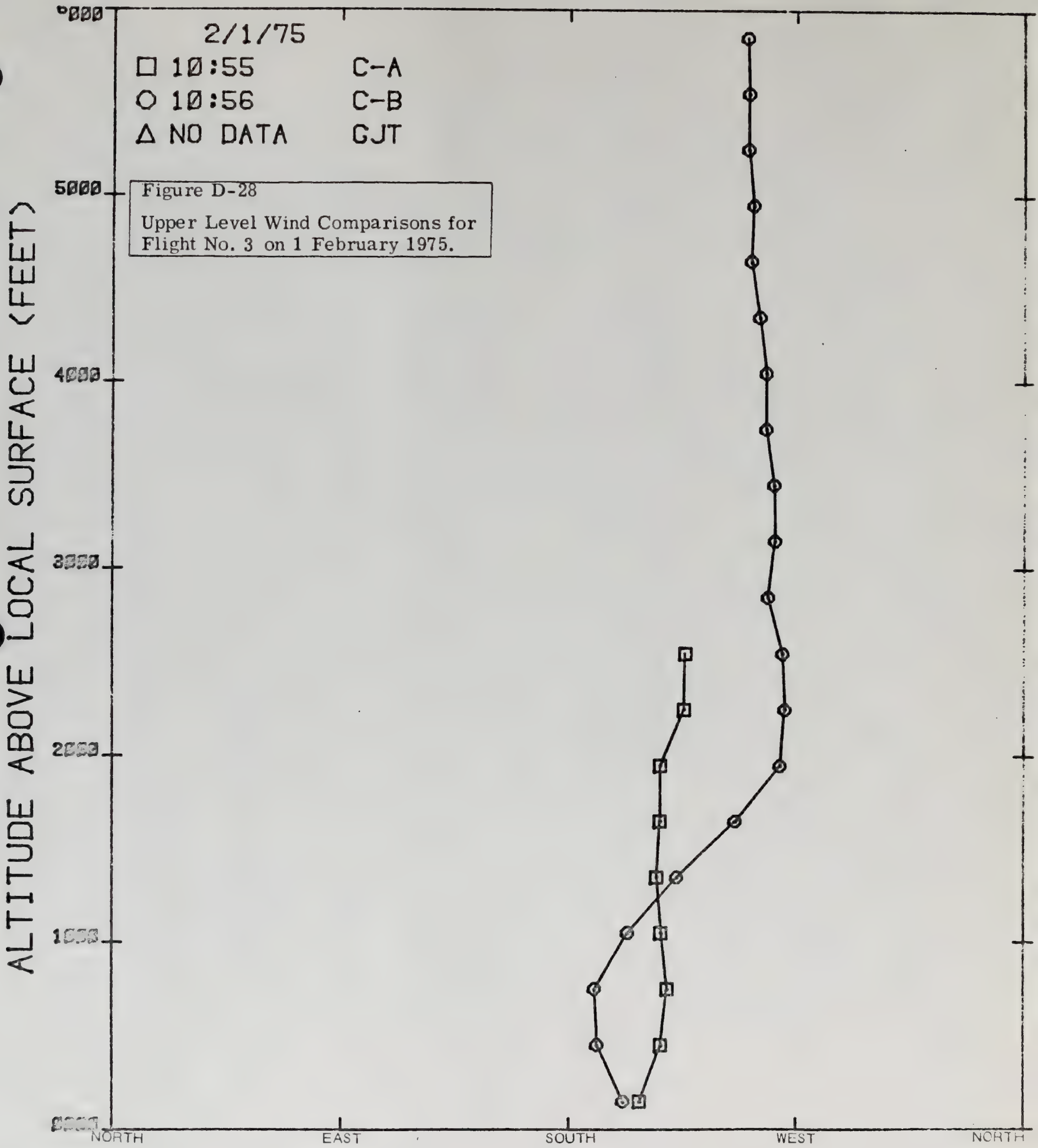


Figure D-28

Upper Level Wind Comparisons for Flight No. 3 on 1 February 1975.

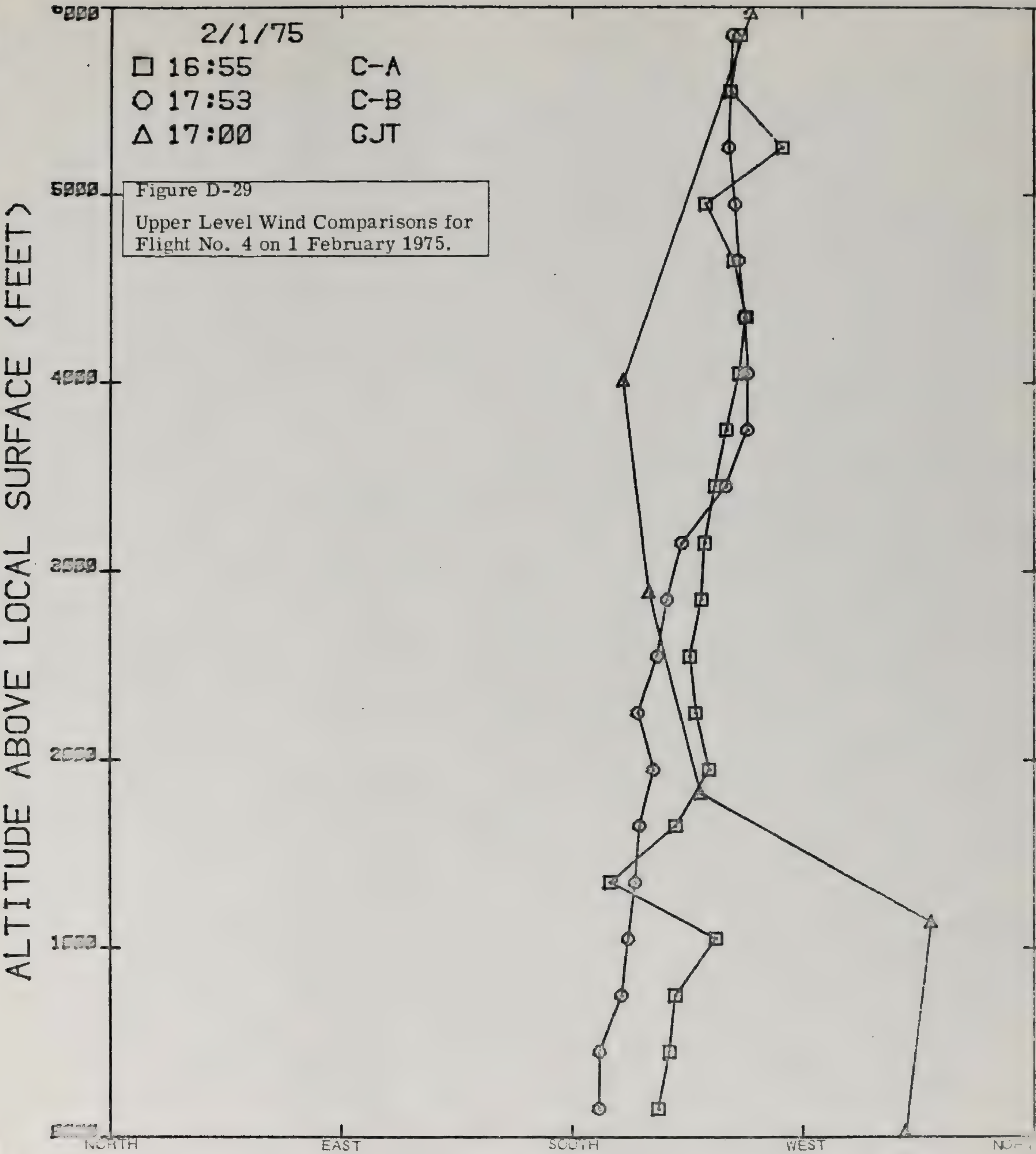


Figure D-29

Upper Level Wind Comparisons for Flight No. 4 on 1 February 1975.

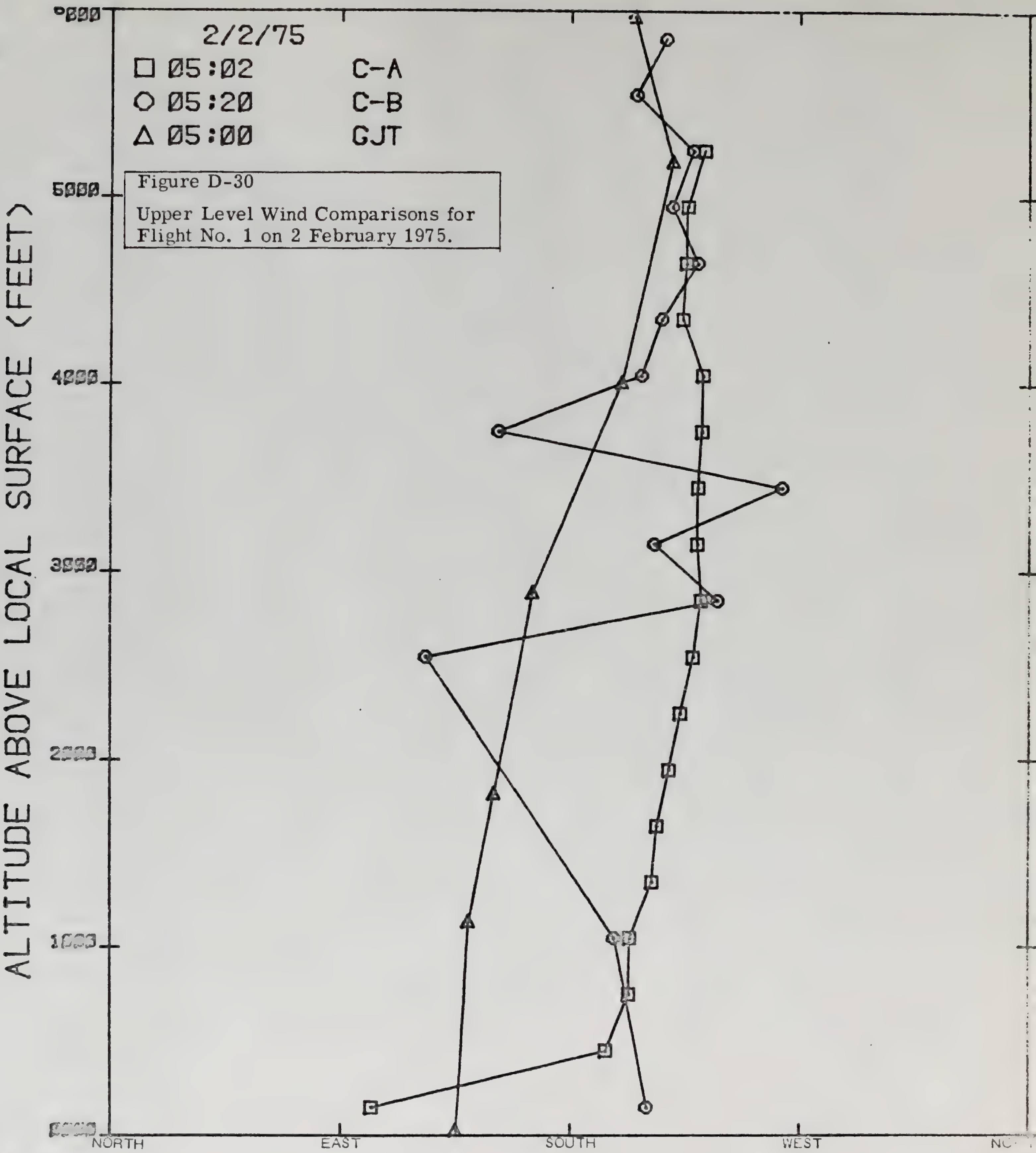


Figure D-30

Upper Level Wind Comparisons for Flight No. 1 on 2 February 1975.

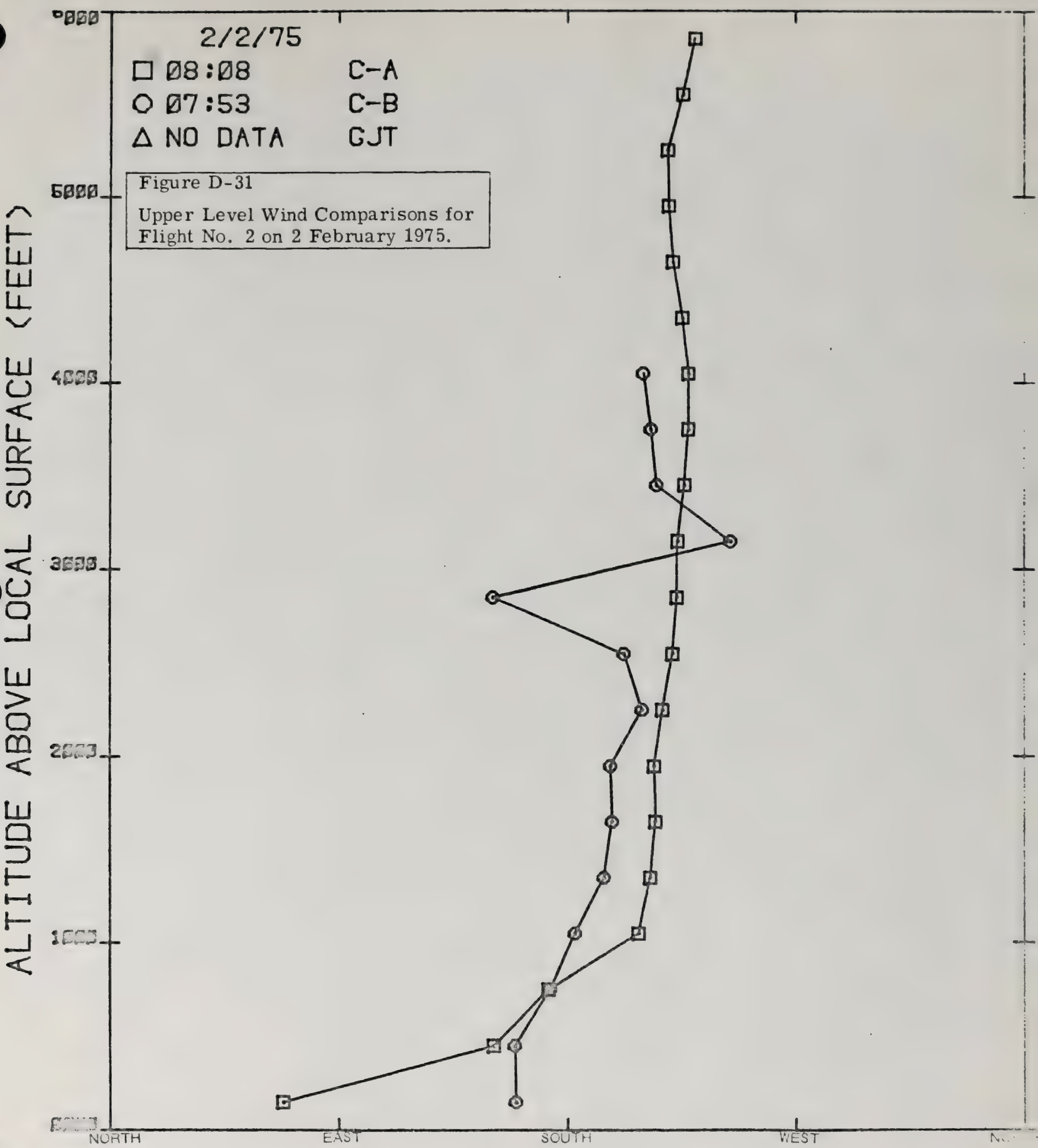


Figure D-31

Upper Level Wind Comparisons for Flight No. 2 on 2 February 1975.

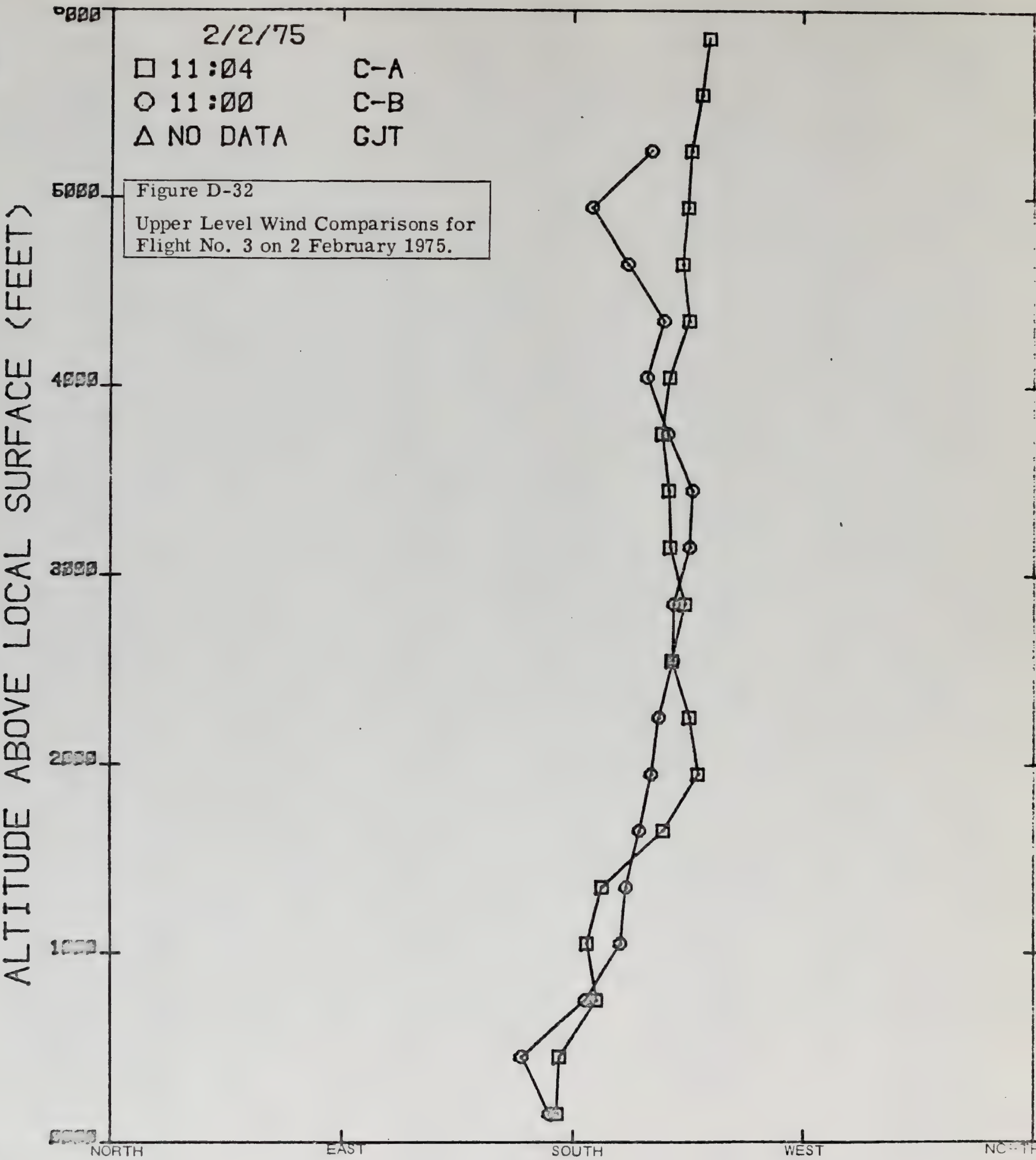


Figure D-32

Upper Level Wind Comparisons for Flight No. 3 on 2 February 1975.

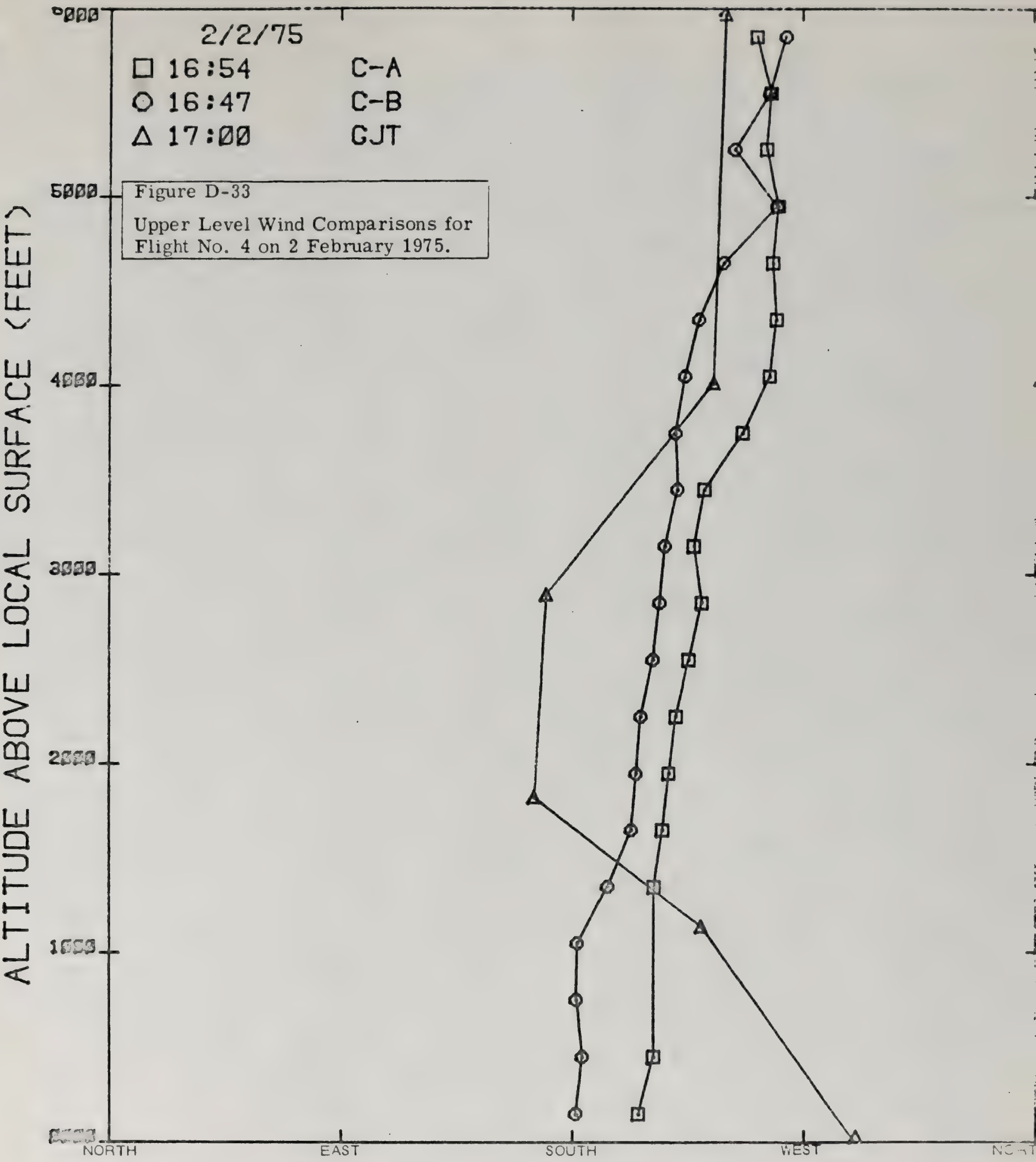


Figure D-33

Upper Level Wind Comparisons for Flight No. 4 on 2 February 1975.

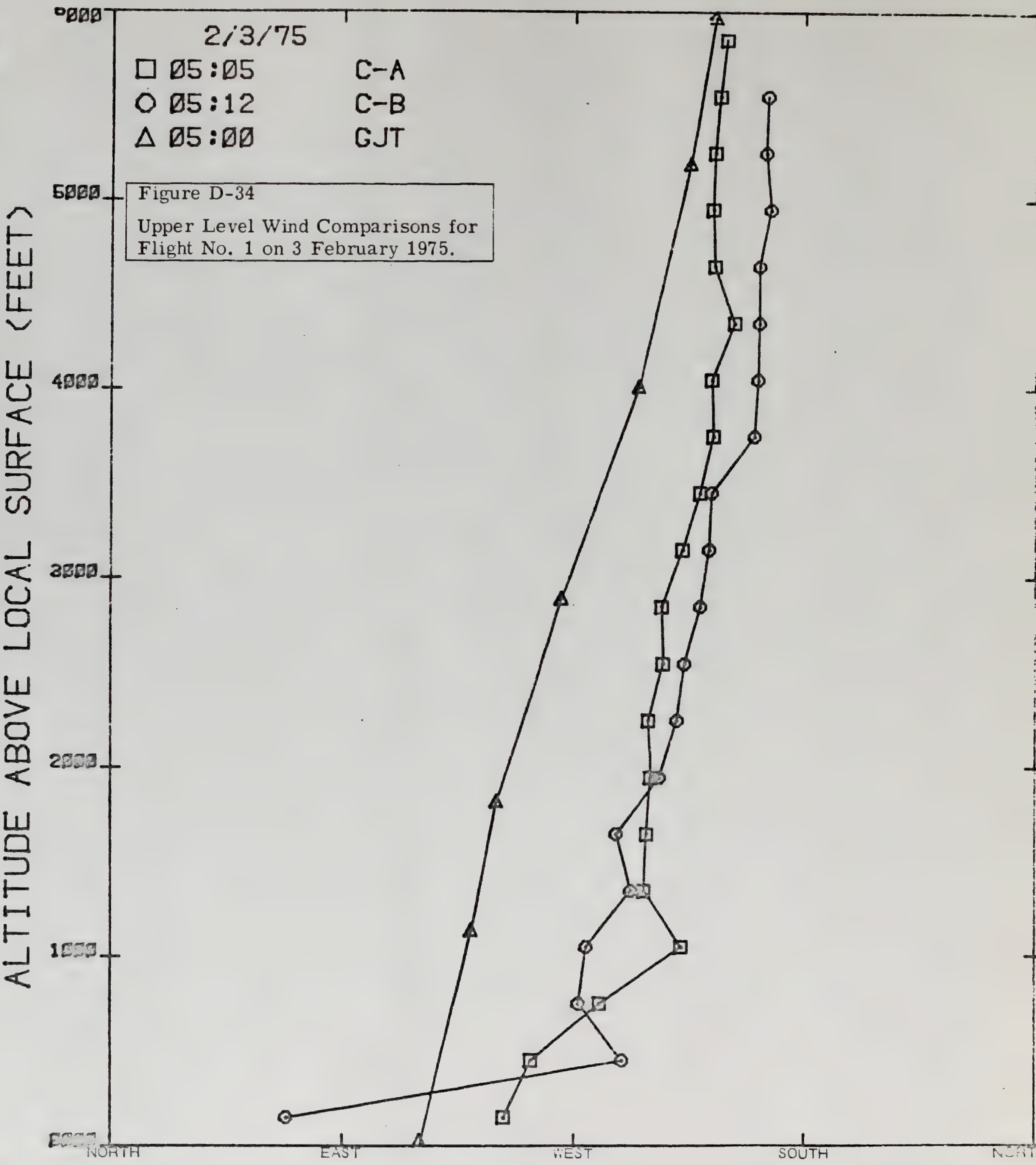


Figure D-34

Upper Level Wind Comparisons for Flight No. 1 on 3 February 1975.

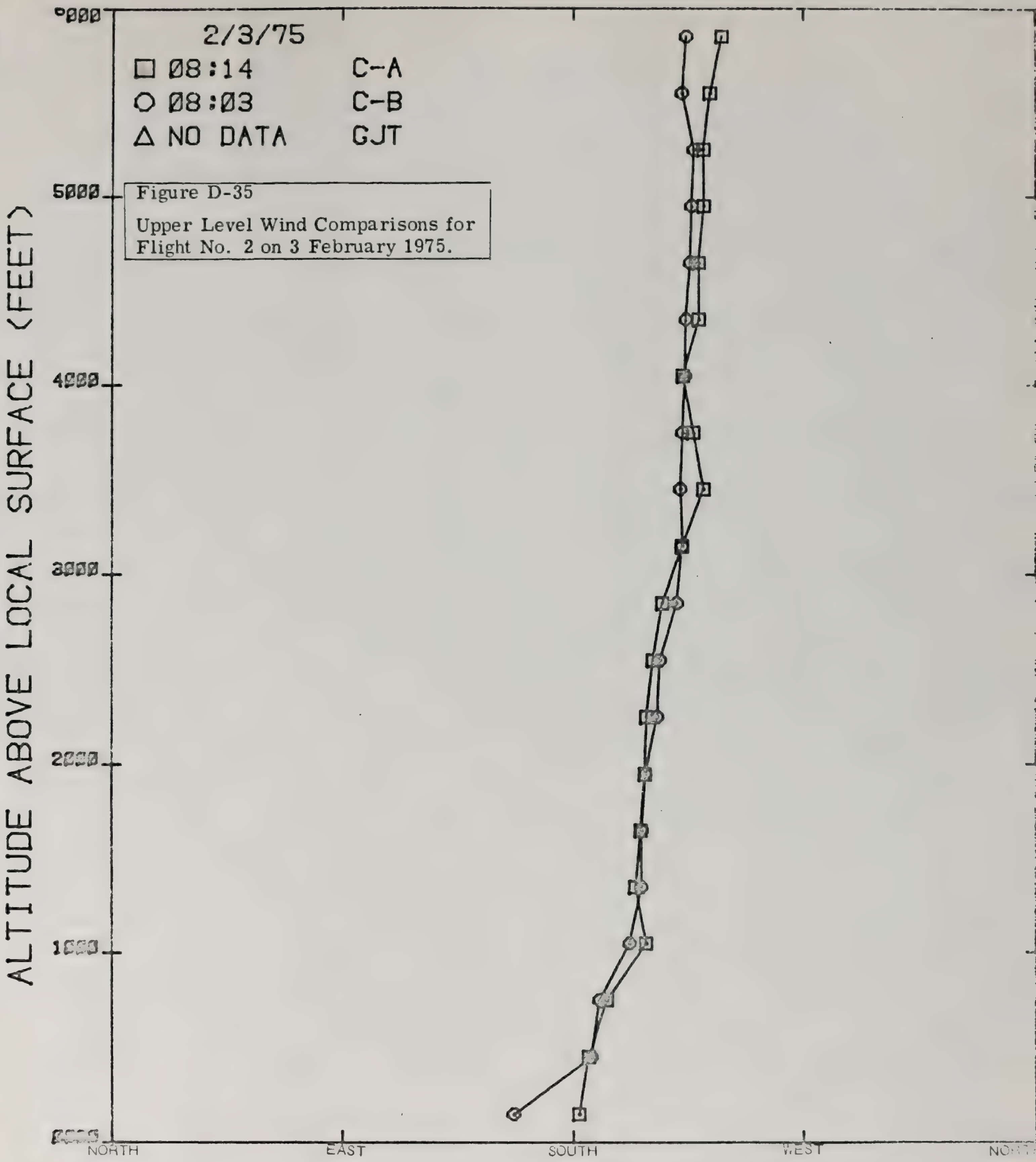


Figure D-35

Upper Level Wind Comparisons for Flight No. 2 on 3 February 1975.

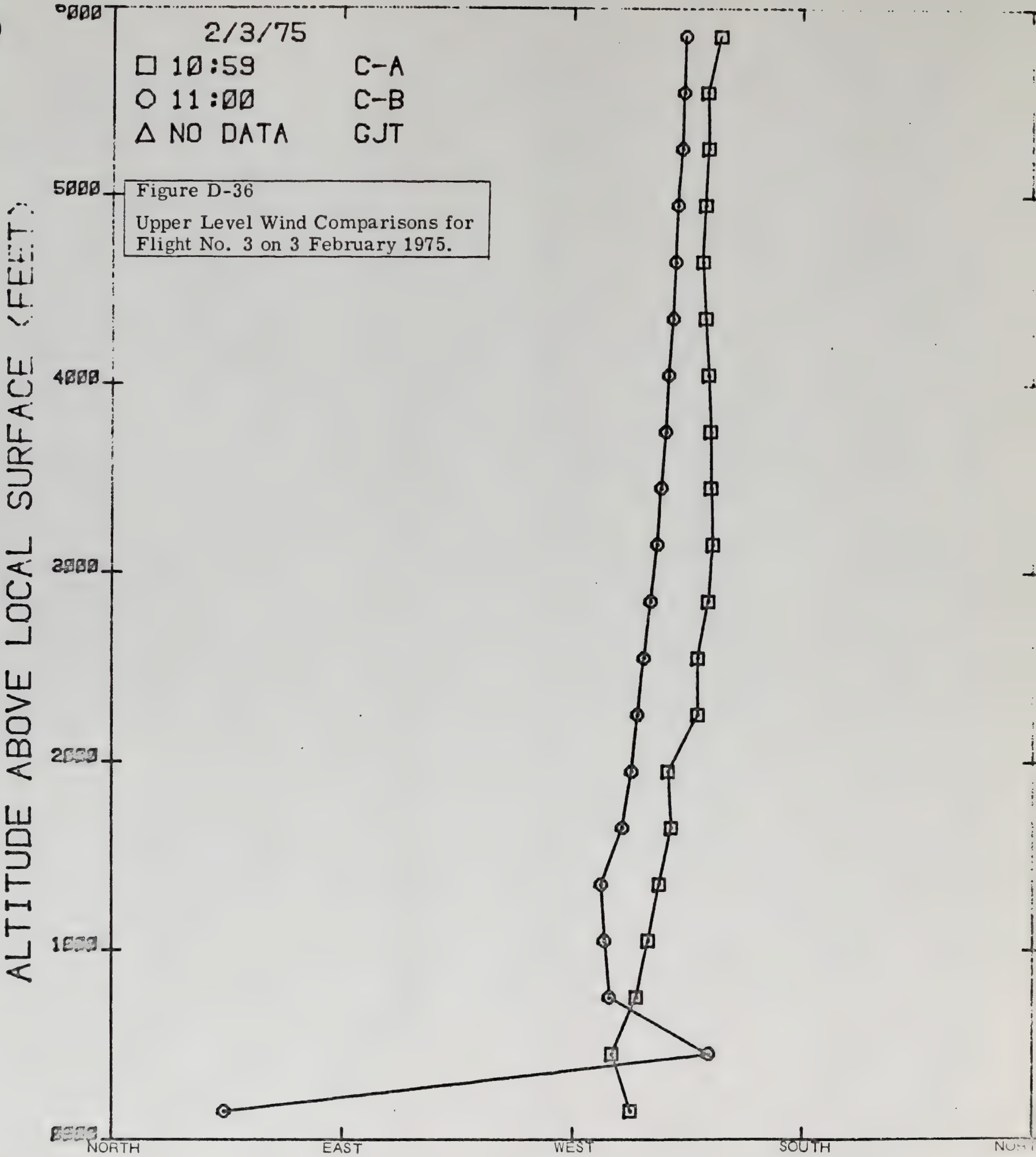


Figure D-36

Upper Level Wind Comparisons for Flight No. 3 on 3 February 1975.

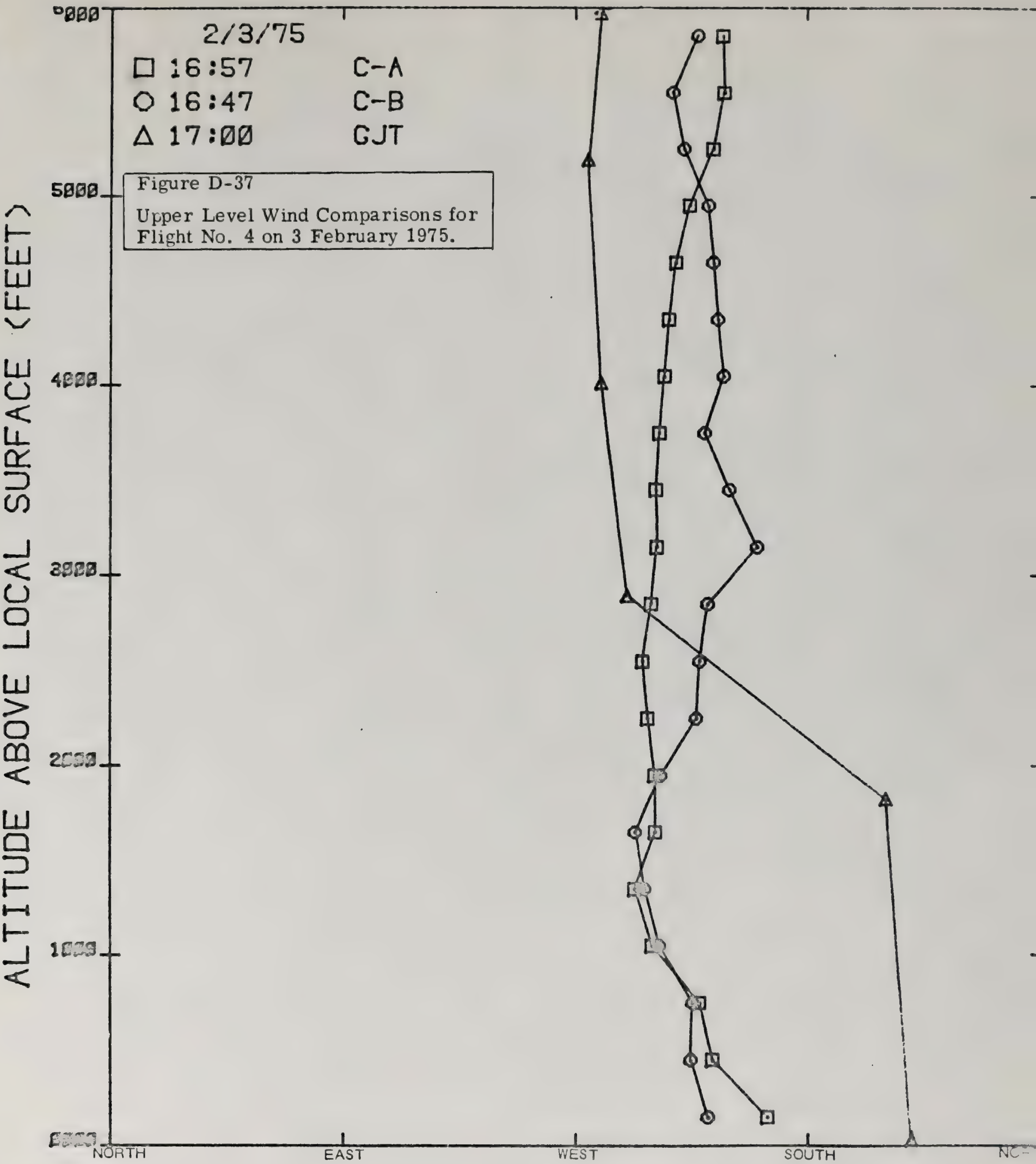


Figure D-37

Upper Level Wind Comparisons for Flight No. 4 on 3 February 1975.

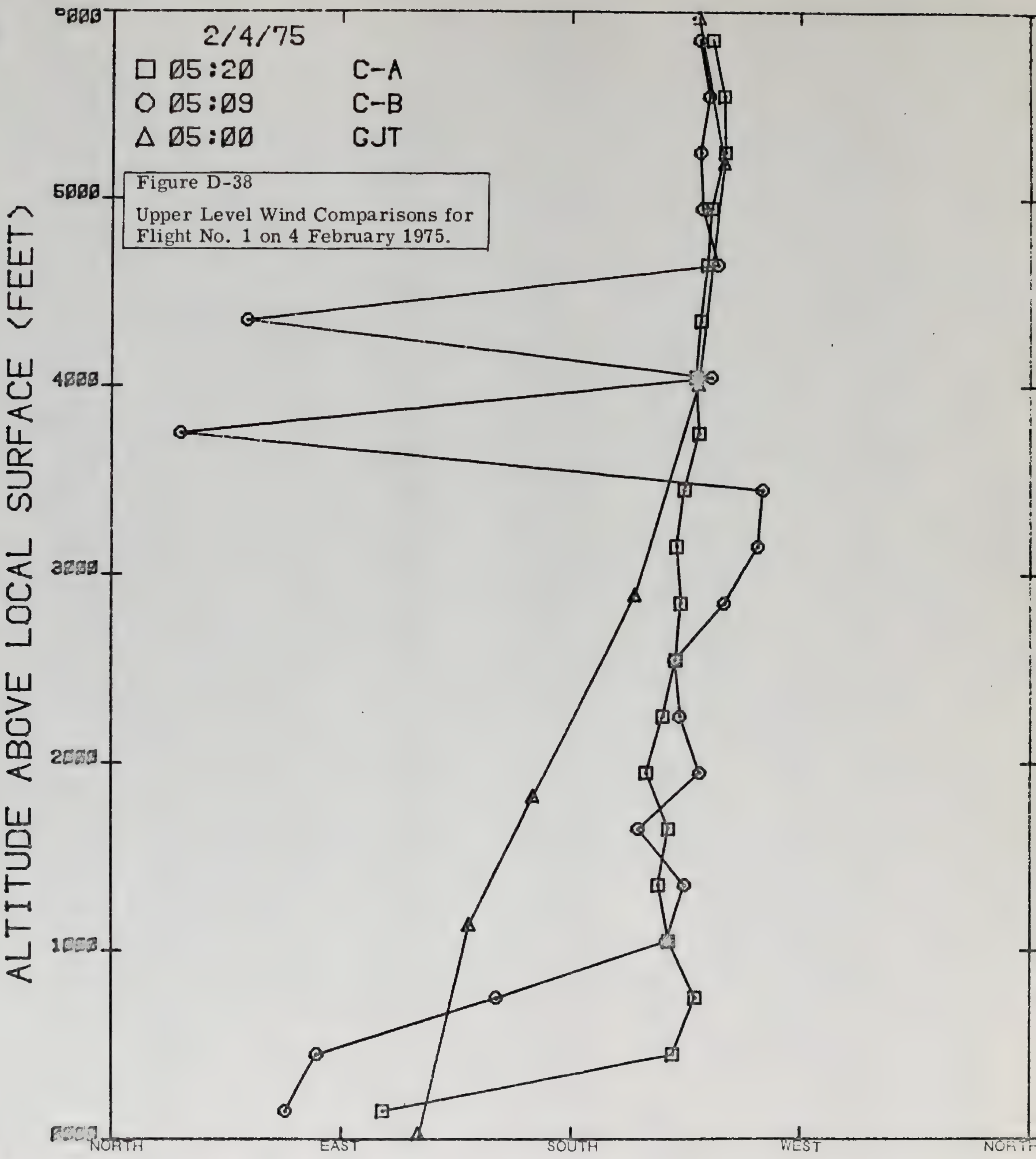


Figure D-38

Upper Level Wind Comparisons for Flight No. 1 on 4 February 1975.

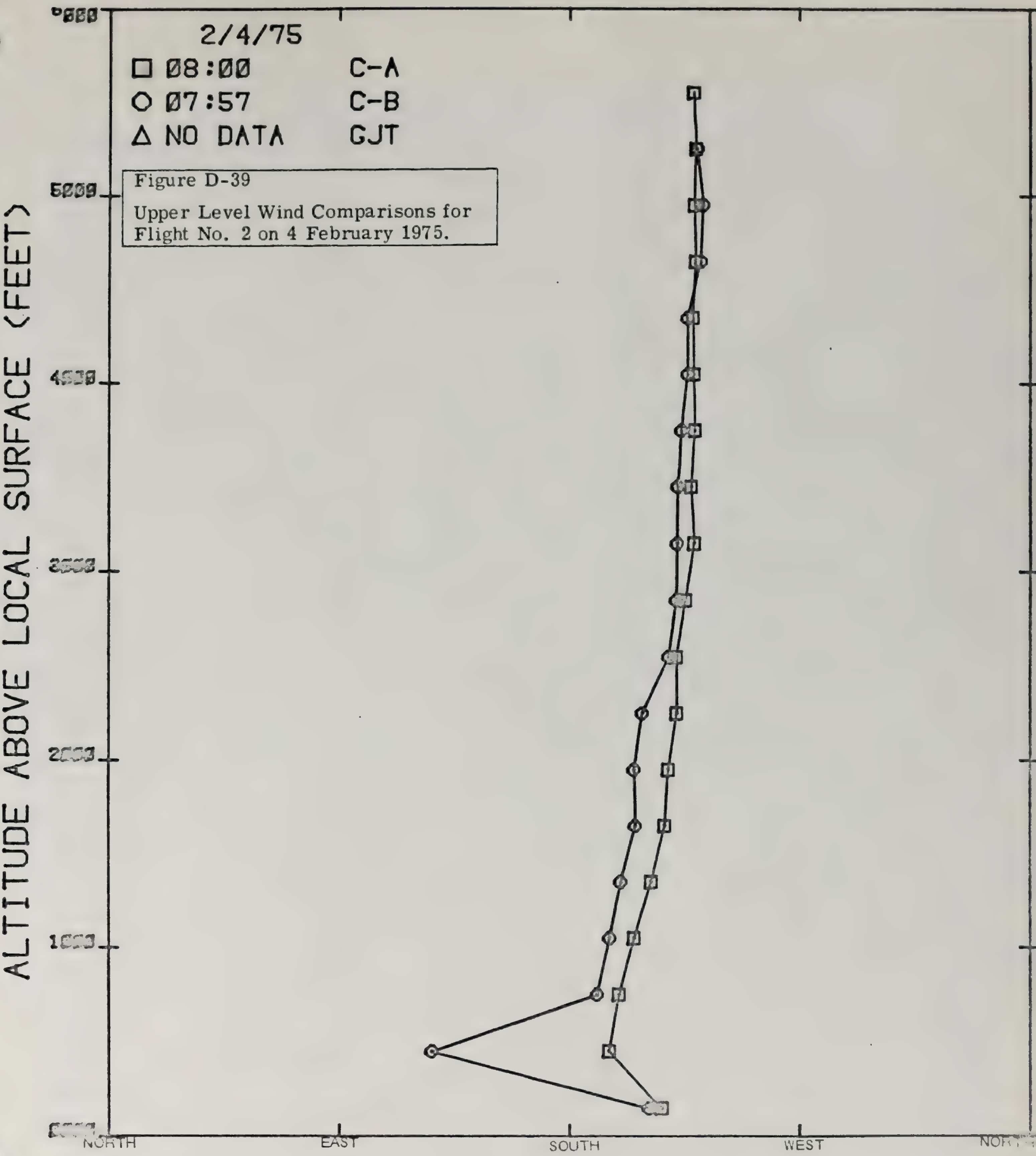


Figure D-39

Upper Level Wind Comparisons for Flight No. 2 on 4 February 1975.

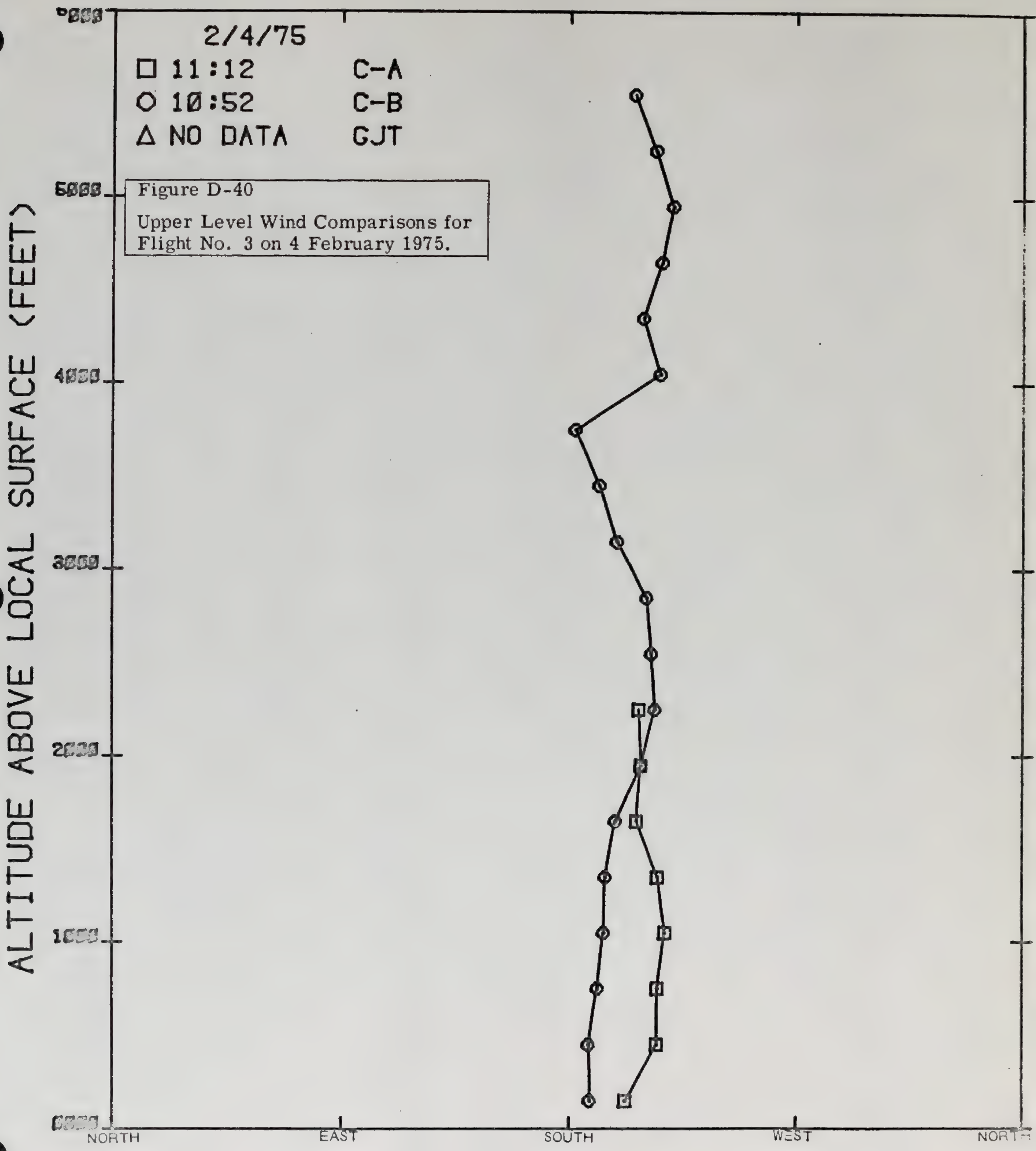


Figure D-40

Upper Level Wind Comparisons for Flight No. 3 on 4 February 1975.

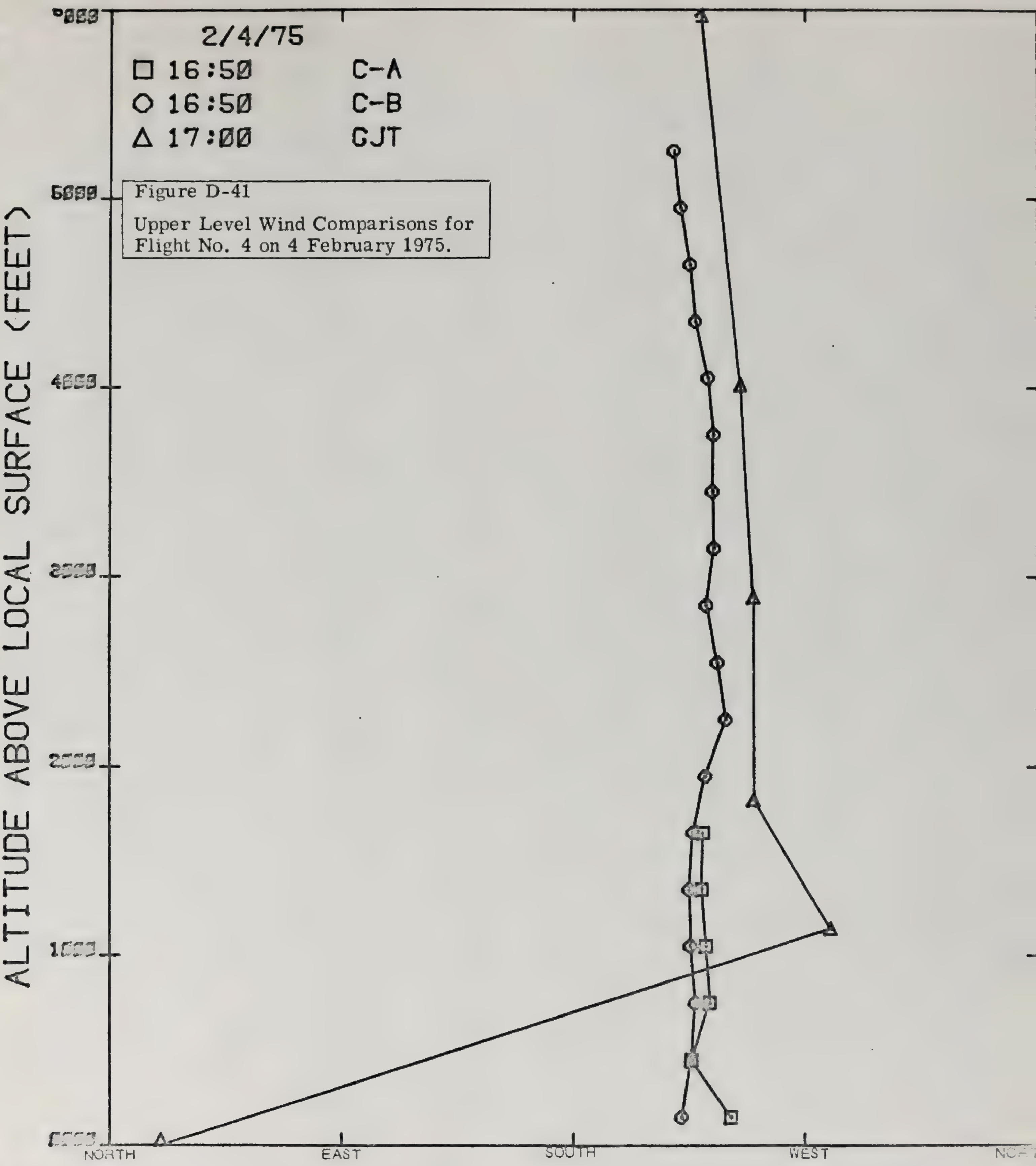


Figure D-41

Upper Level Wind Comparisons for Flight No. 4 on 4 February 1975.

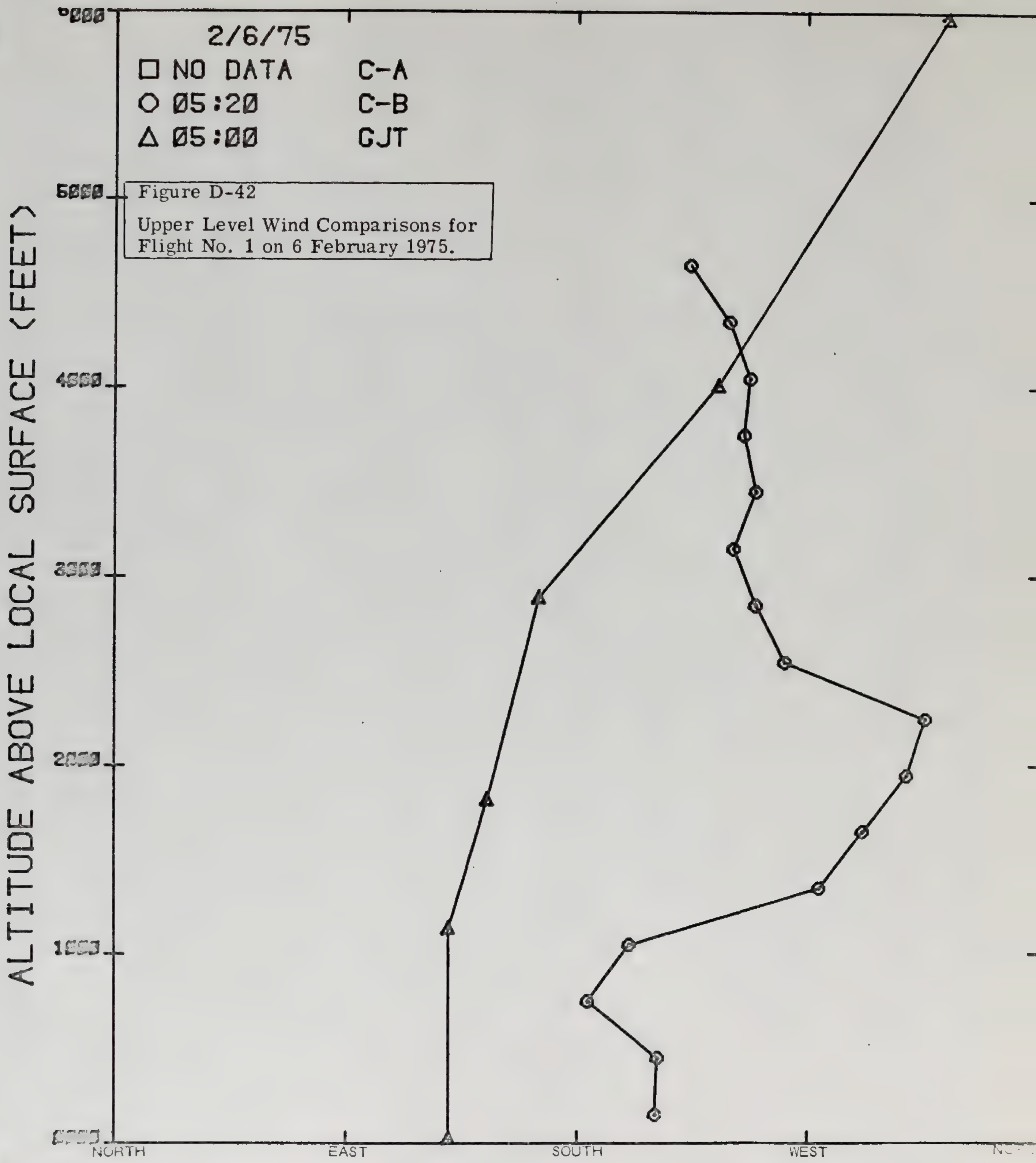


Figure D-42

Upper Level Wind Comparisons for Flight No. 1 on 6 February 1975.

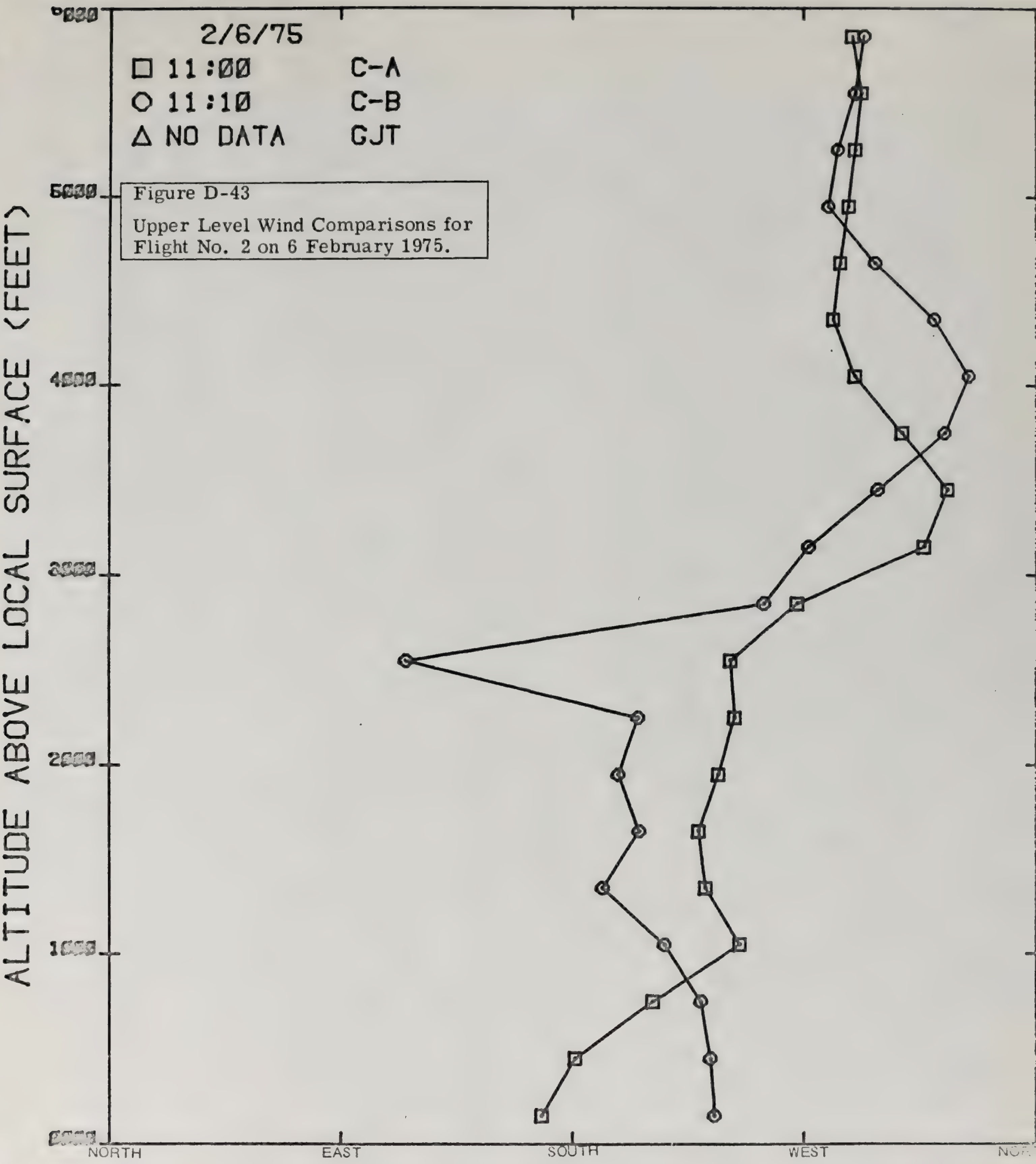


Figure D-43

Upper Level Wind Comparisons for Flight No. 2 on 6 February 1975.

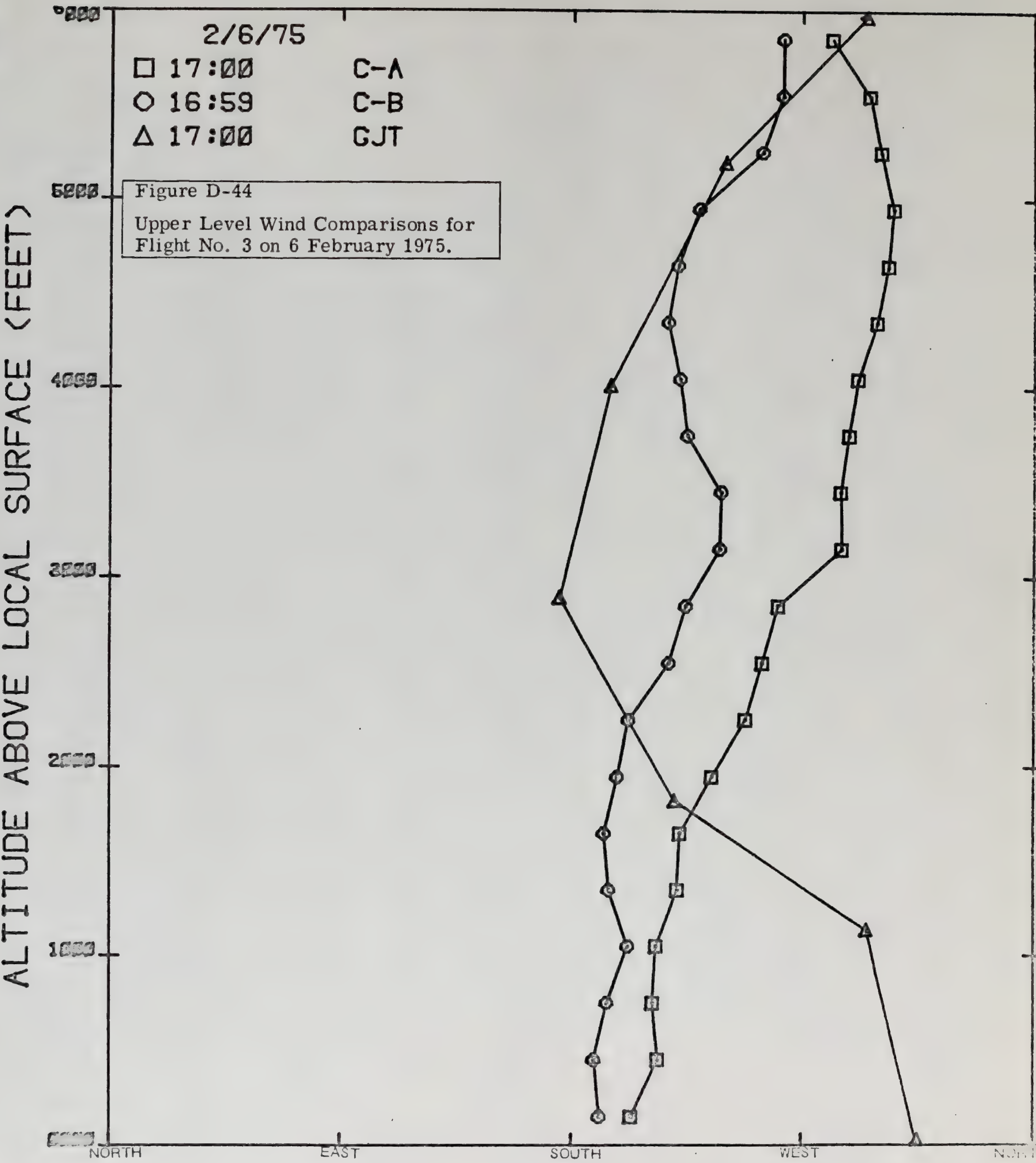


Figure D-44

Upper Level Wind Comparisons for Flight No. 3 on 6 February 1975.

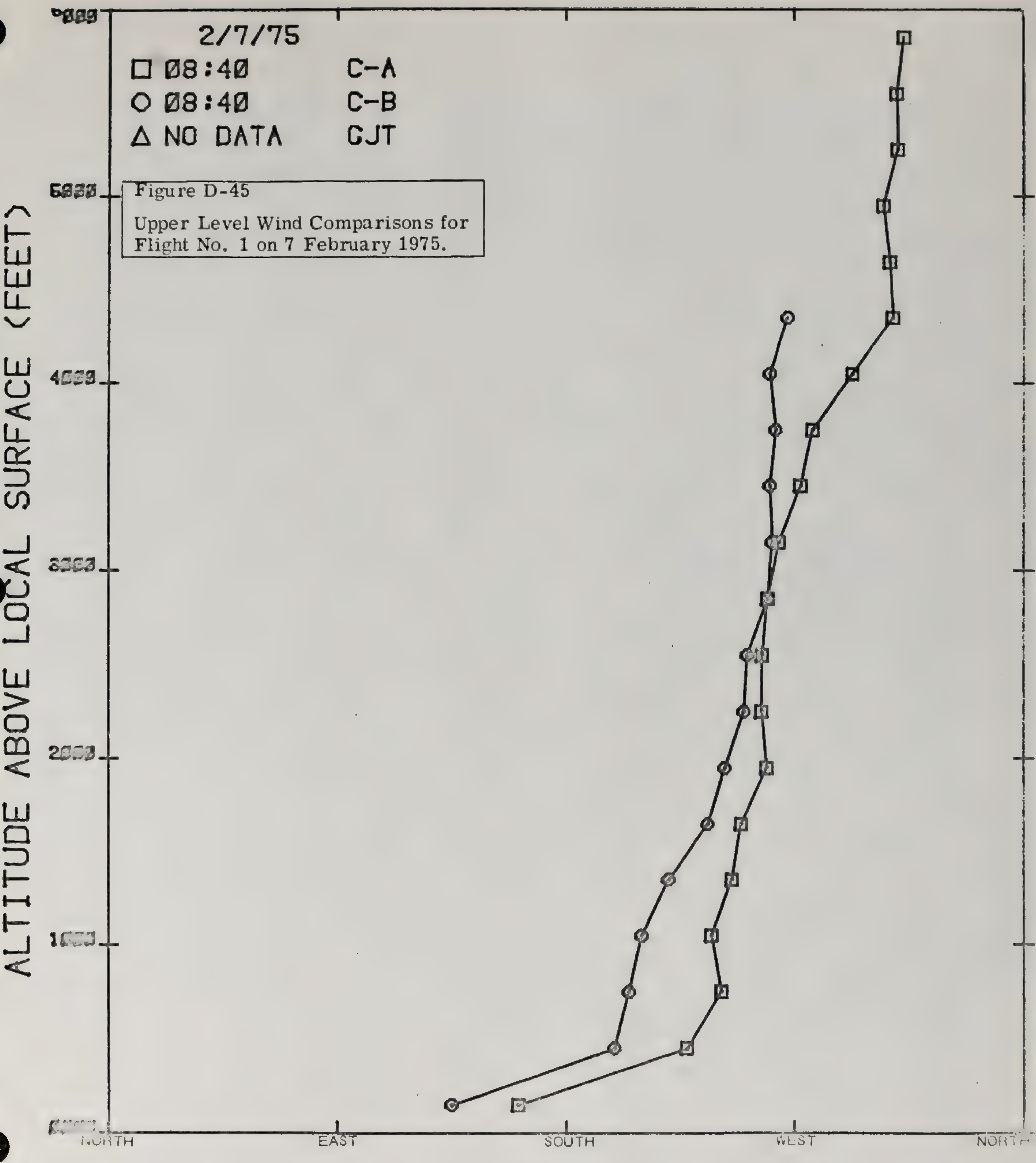


Figure D-45

Upper Level Wind Comparisons for Flight No. 1 on 7 February 1975.

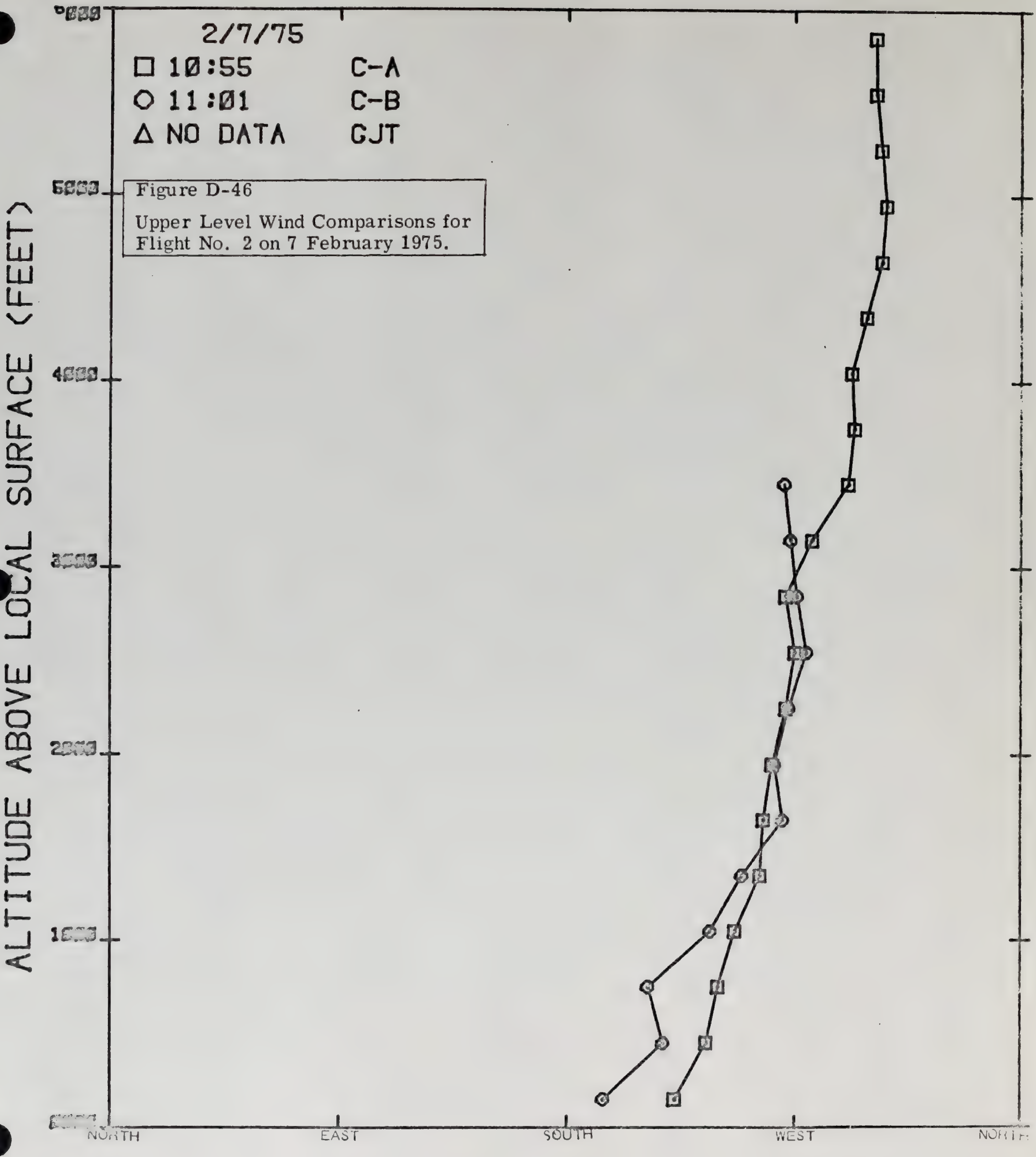


Figure D-46

Upper Level Wind Comparisons for Flight No. 2 on 7 February 1975.

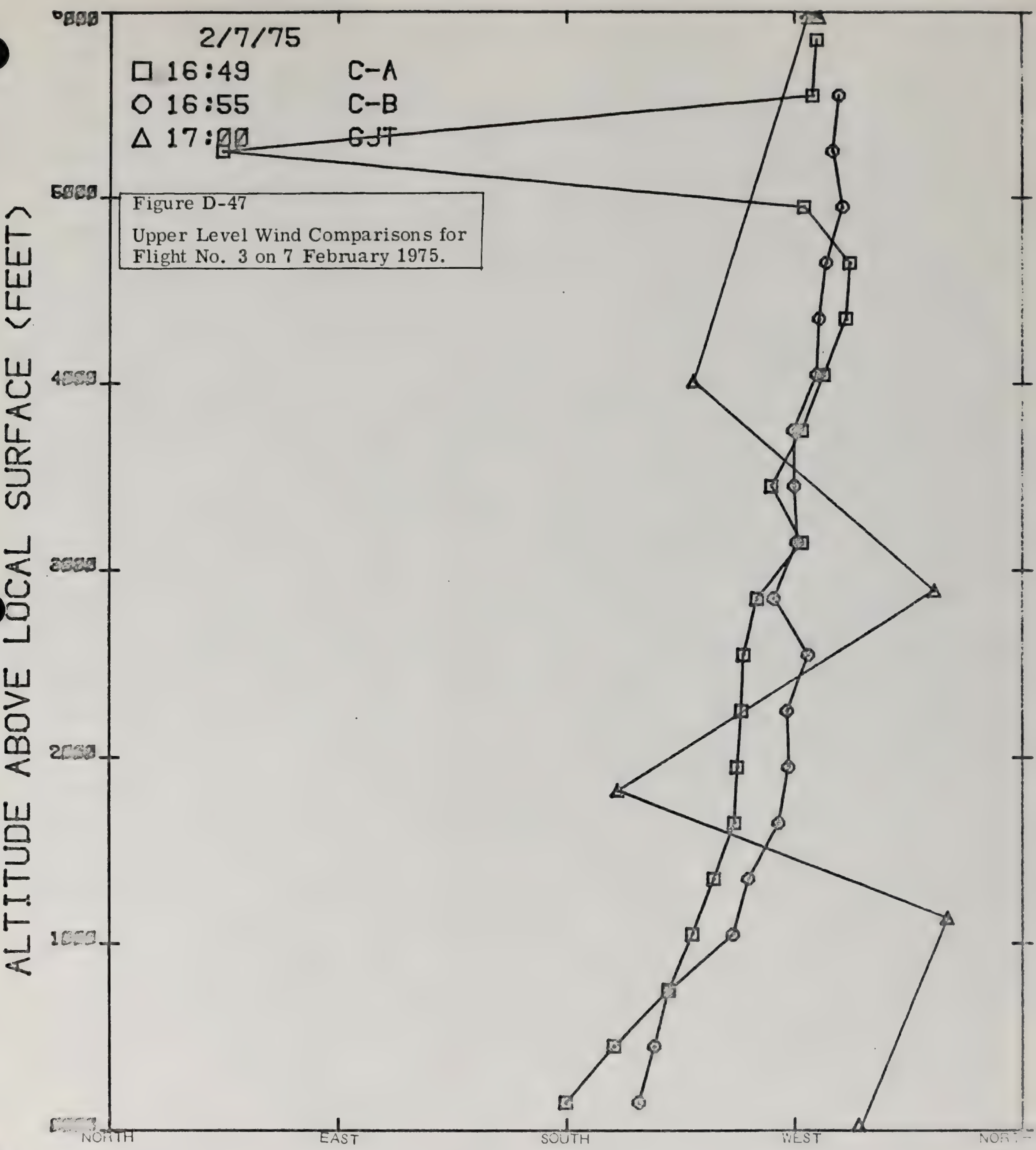


Figure D-47

Upper Level Wind Comparisons for Flight No. 3 on 7 February 1975.

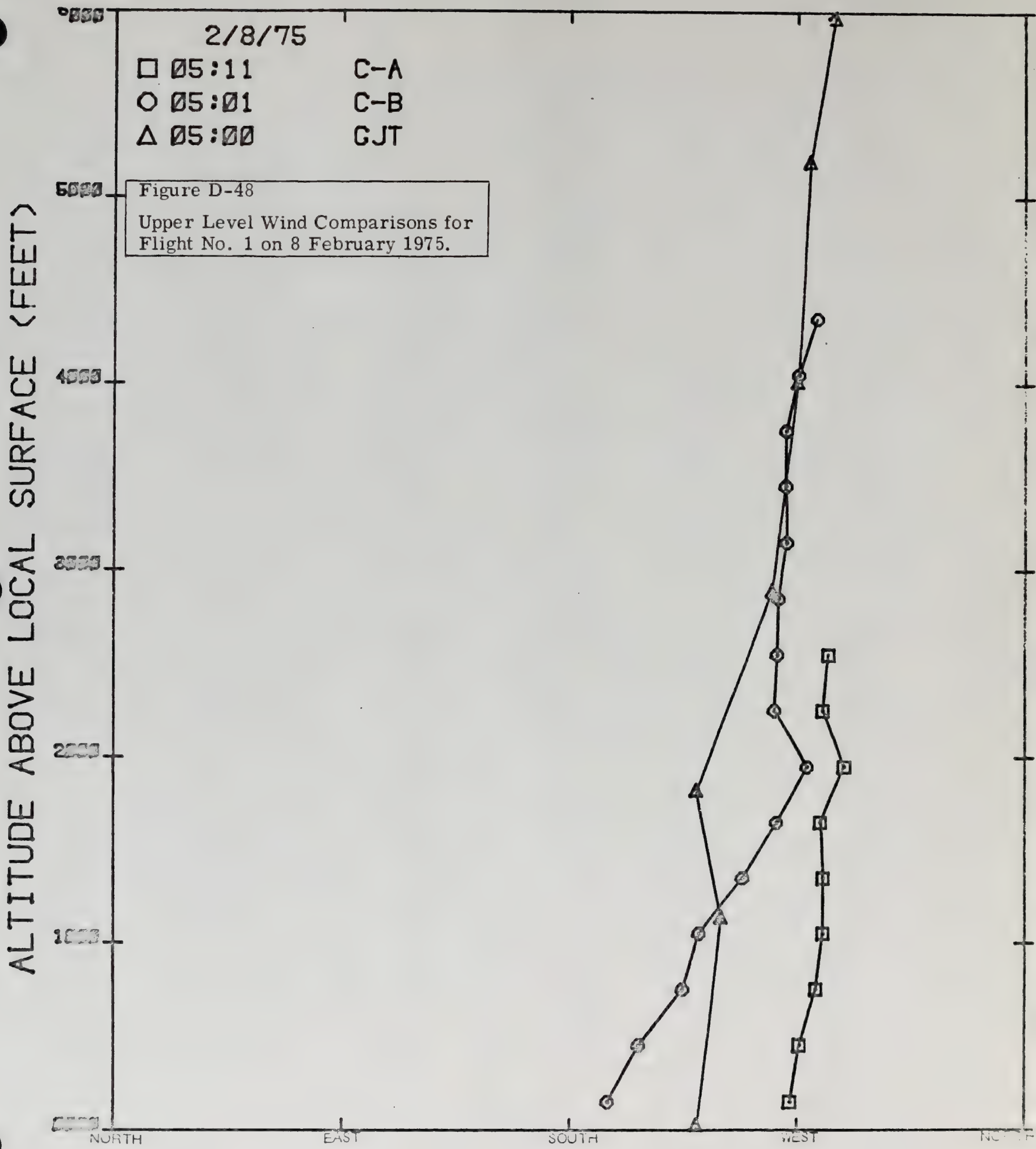


Figure D-48

Upper Level Wind Comparisons for Flight No. 1 on 8 February 1975.

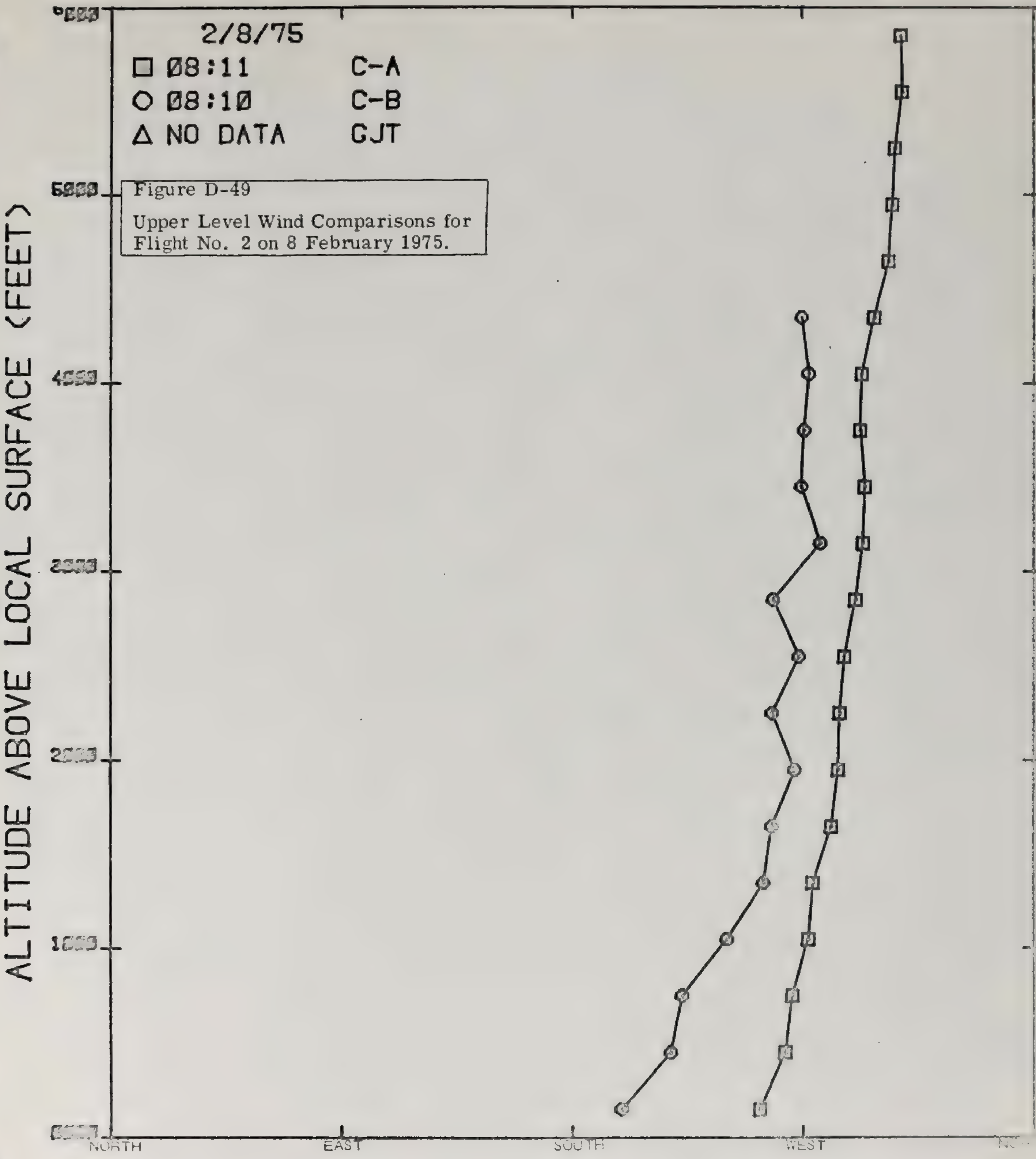


Figure D-49

Upper Level Wind Comparisons for Flight No. 2 on 8 February 1975.

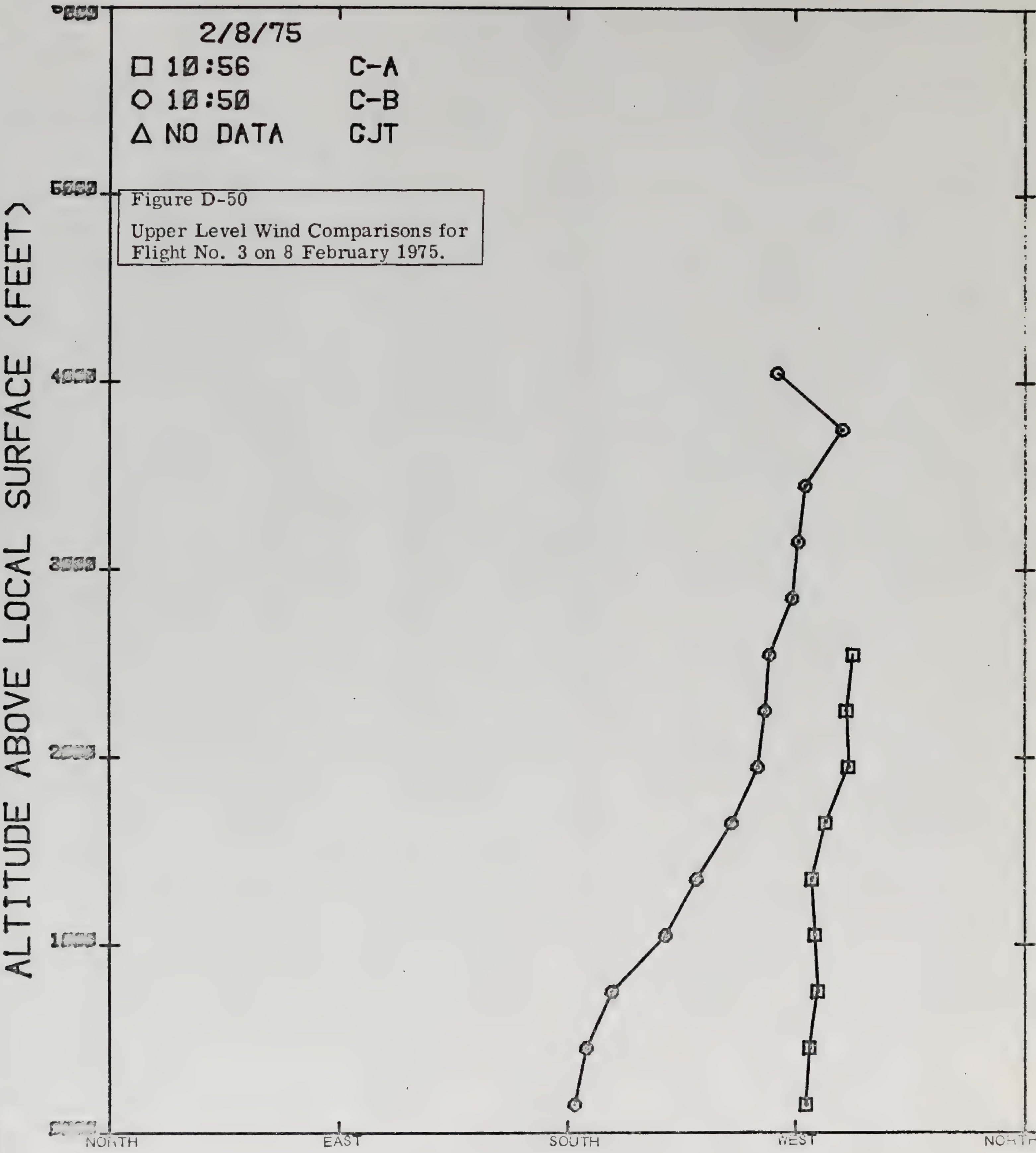


Figure D-50

Upper Level Wind Comparisons for Flight No. 3 on 8 February 1975.

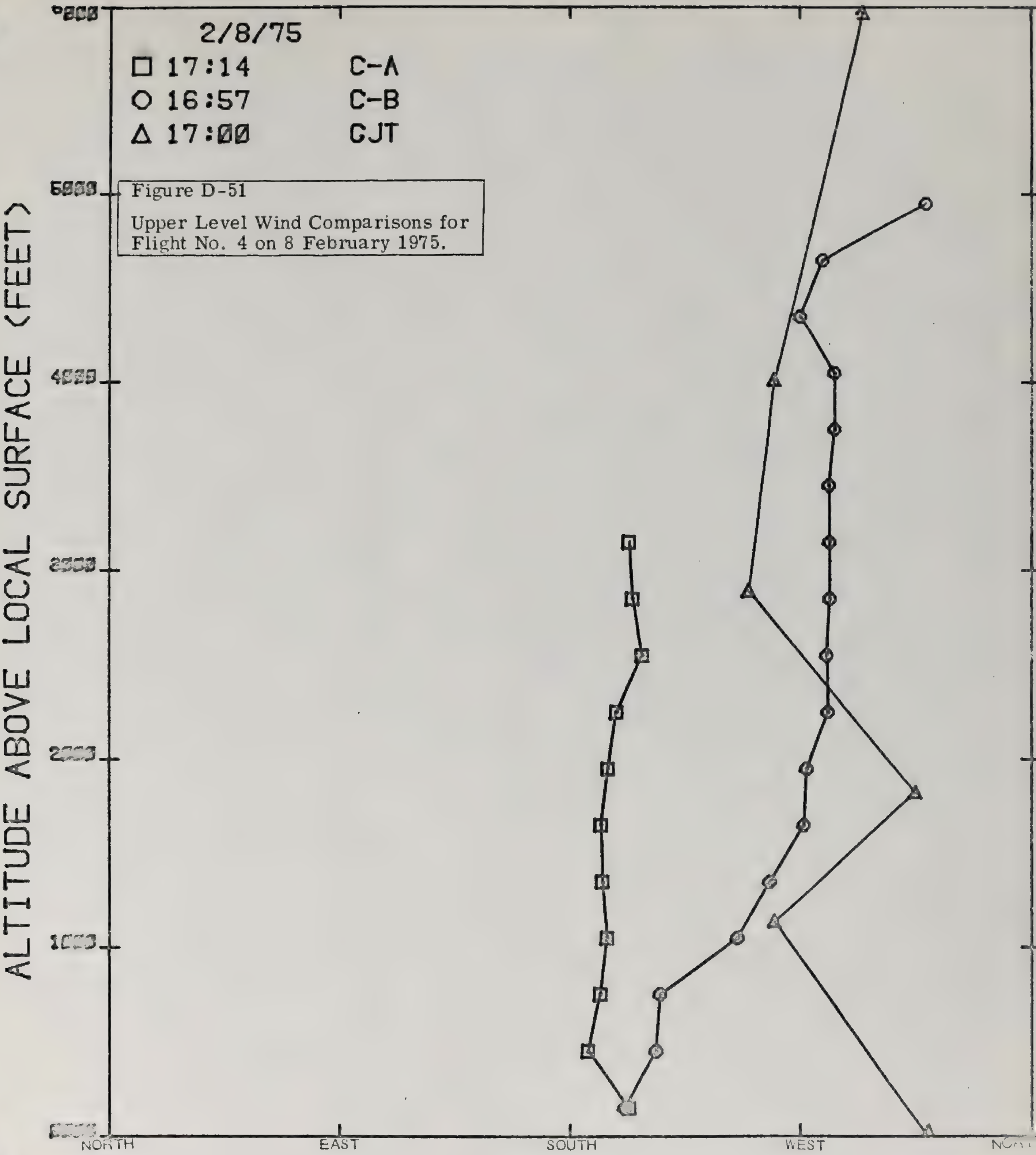


Figure D-51

Upper Level Wind Comparisons for Flight No. 4 on 8 February 1975.

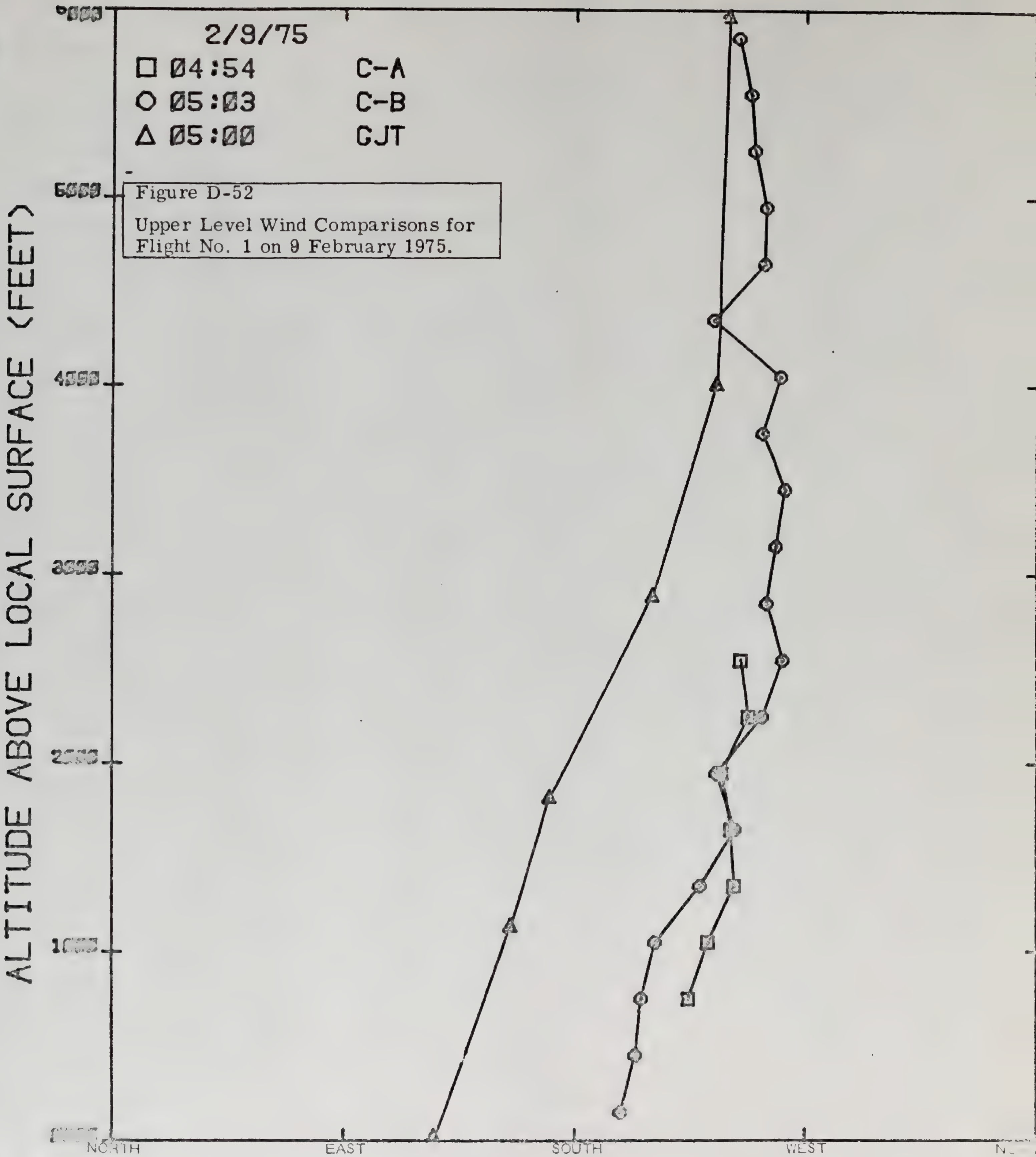


Figure D-52

Upper Level Wind Comparisons for Flight No. 1 on 9 February 1975.

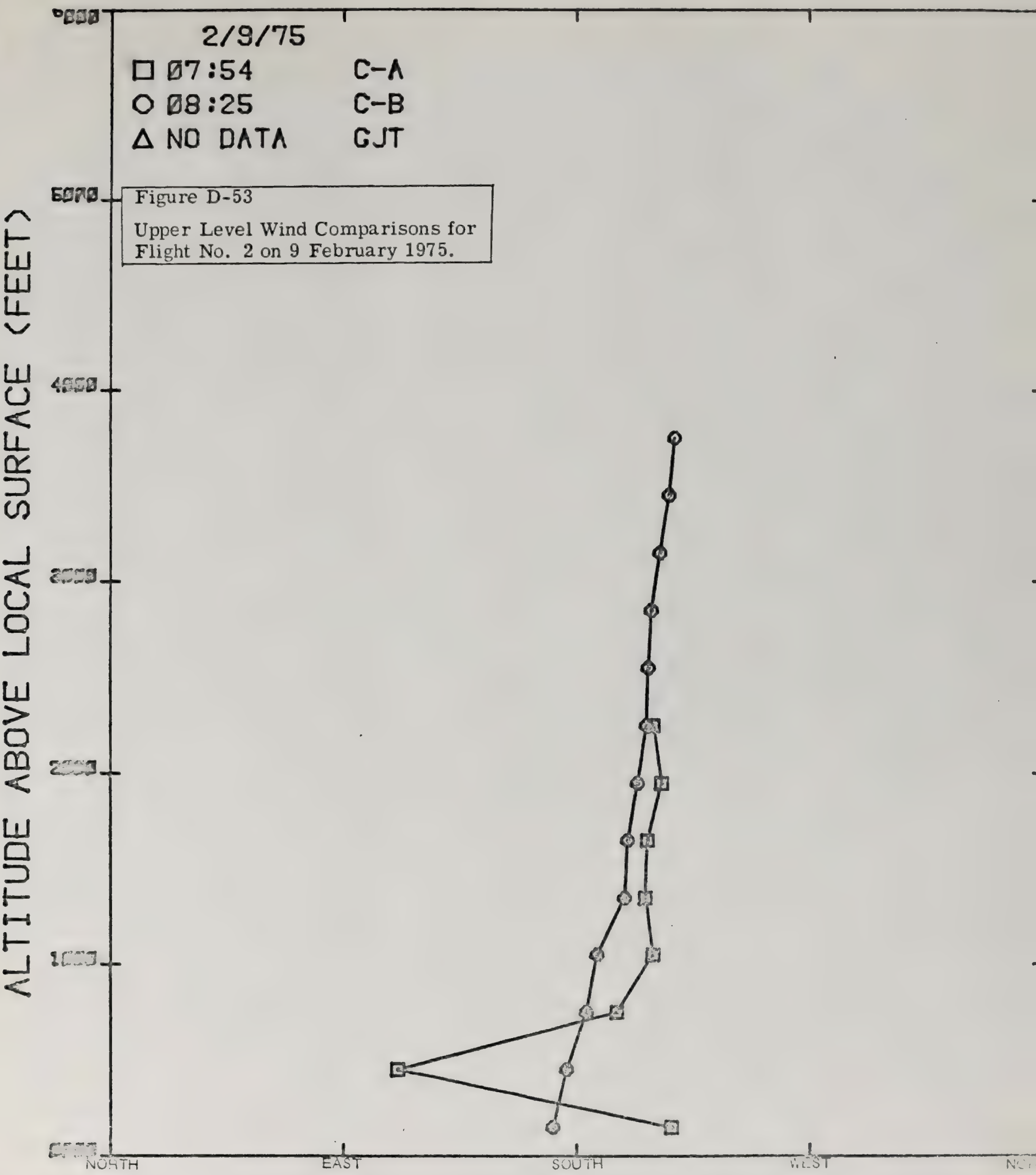


Figure D-53

Upper Level Wind Comparisons for Flight No. 2 on 9 February 1975.

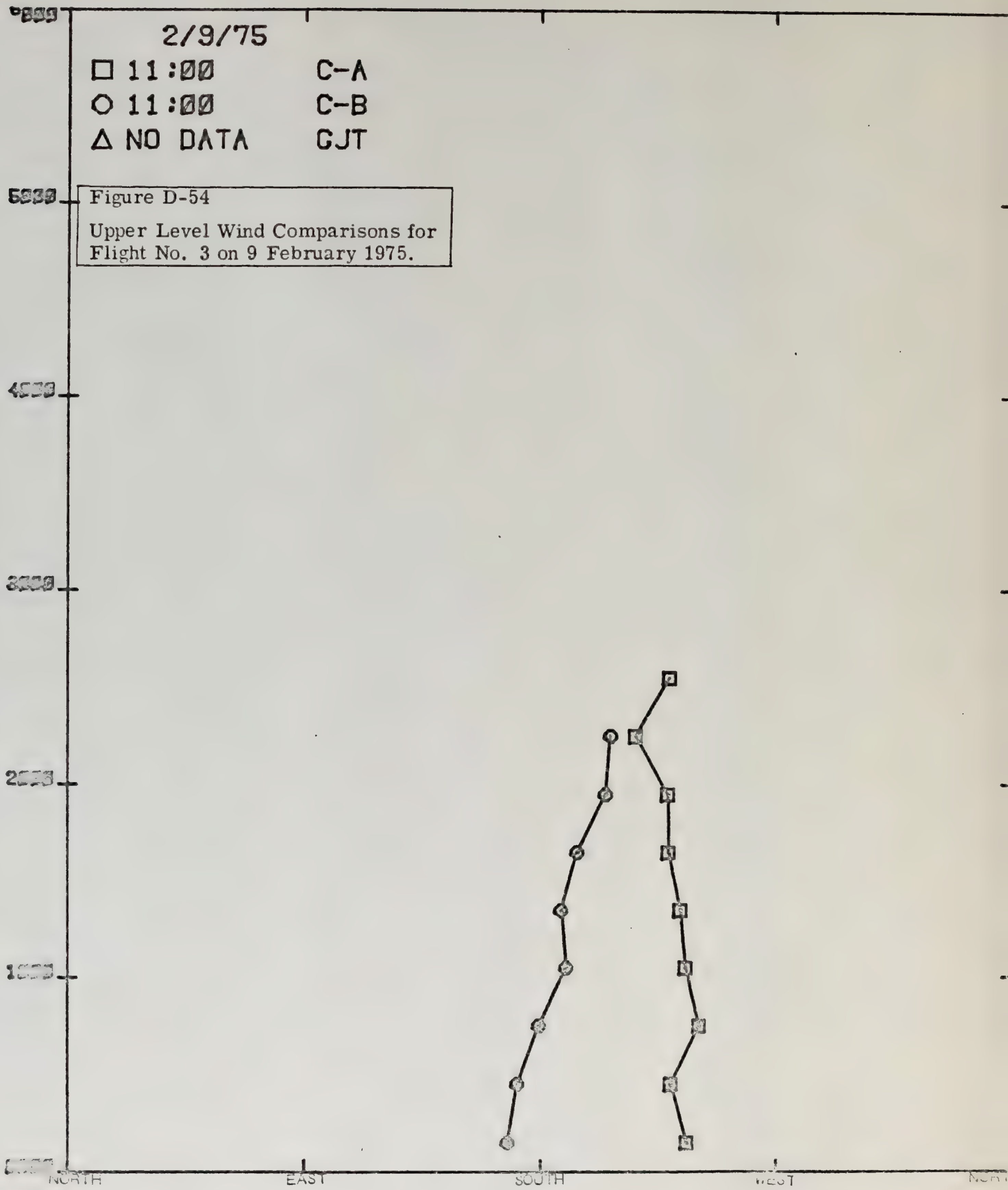


Figure D-54

Upper Level Wind Comparisons for Flight No. 3 on 9 February 1975.

TOSCO Volatile Trace Metals (Ref 7)

THE OIL SHALE CORPORATION
18200 WEST HIGHWAY 72
GOLDEN, COLORADO 80401
303/279-7721
CABLE ADDRESS: "TOSCOPETRO"

10100 SANTA MONICA BOULEVARD
LOS ANGELES, CALIFORNIA 90067

February 6, 1975

LABORATORY DATA LETTER 75-23

Re: Air Monitoring and Analytical
Determinations of Volatile
Trace Metals at the C-b Tract
Sampling Date: January 27, 1975

Project No. 197

Dr. Max W. Legatski
C-b Shale Oil Project
2 Park Central, Suite 555
1515 Arapahoe Street
Denver, Colorado 80202

Dear Max:

This is the second quarterly report on the sampling and analytical determination of airborne concentrations of volatile trace metals, e.g. arsenic (hereafter referred to and determined as arsine), selenium and mercury at the C-b tract. The meteorological parameters of interest are recorded in Table 1. Samples were collected at the meteorological tower on January 27, 1975. The sampling technique and analytical methology used for arsine, selenium and mercury were outlined in Laboratory Data Letter 74-134, dated December 4, 1974. The concentrations of these metals and sulfur dioxide were found to be below the detection levels of the analytical methods used (see Table 2 for details), although the methods used for analysis are reportedly quite sensitive.

On January 29, 1975, one sample for sulfur dioxide was collected by passing the air through an impinger that contained 10 ml solution of tetrachloromercurate (II) solution (TCM). The TCM solution was subsequently analyzed for

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MAX W. LEGATSKI

GROUP

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MDL		✓
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sulfur dioxide content using West-Gaeke method. This method essentially consists of absorbing sulfur dioxide into TCM solution. This results in the formation of a stable dichlorosulfitomercurate complex. The color is developed by adding solutions of formaldehyde (0.2% v/v) and acid-bleached pararosaniline (0.2% w/v). Pararosaniline, formaldehyde and the bisulfite anion react to form intensely colored complex which is measured spectrophotometrically at 548 nm. Absorbance is linearly proportional to the sulfur dioxide concentration.

Air sampling for particulate matter in the respirable ranges was performed using an Andersen sampler (see Table 3 for results). The Andersen head attachment to the high volume sampler is a multi-stage, multi-jet cascade impactor. It is made of five aluminum plates separated by neoprene rubber gaskets. The standard 8"x10" high volume glass fiber filter acts as a back-up. Each plate contains 300 equally sized holes. The holes are aligned so that the air streams through the holes are directed at the surfaces of the plate below. The diameter of the holes decreases from plates one to four. Plates are covered with circular glass filters which have holes aligning with the holes in the plates supporting them. The mass of particulates, on a particular stage or plate, is determined by the usual gravimetric procedure (i.e. difference in weights is determined by using an analytical balance). The filters resting on plates 2, 3, 4, 5 and the back-up filter corrrespond respectively to aerodynamic diameters of 7.0 microns and above, 3.3 to 7 microns, 2.0 to 3.3 microns, 1.1 to 2.0 microns, and 0.01 to 1.1 microns.

CONCLUSIONS

The weather conditions from January 27 through 29, 1975, were far from being ideal for air sampling of volatile trace metals and sulfur dioxide at the C-b tract. The natural atmospheric self-cleaning processes were at their best due to rain and heavy snowfall. In addition to this, high wind velocity would have effectively dispersed any remaining airborn particulates that rain or snow could not sink into the ground. Arsine and selenium dioxide both show a greater solubility in water and, therefore, because of prevailing atmospheric conditions, I might have gotten zero values for these. The values for these two metals I had measured in the last quarter are given in parenthesis in Table 2 for reference purposes. By no means are these values high even in analytical sense; in fact, both of these were just above the detection limits of analytical methods used. It may be that true concentrations of arsine and selenium dioxide are zero at the C-b tract, but I would have liked to establish this under better meteorological conditions.

Surprisingly, I could not get any number for mercury this time. Last quarter, the sampling time for mercury was three hours and I had collected a total of 12 µg of mercury (in absolute quantities) during this sampling time. This quarter, the sampling time for mercury was two hours. The reduction in time was mainly a means of convenience for analyzing the sample. The sulfur dioxide sample collected on January 29, 1975, after a very heavy snowfall, would in all probabilities give a zero reading. The data from Andersen sampler looks OK.

I am hoping to sample all these species again under better weather conditions in the near future and then shall report to you again.

Very truly yours,

ARUN D. SHENDRIKAR
Senior Research Chemist

ADS/as
Encs.

Approved (FCH) (MTA)

cc: Dr. B. L. Schulman
Dr. R. M. Coomes
Mr. K. D. VanZanten
Mr. G. C. Kane

TABLE 1

METEOROLOGICAL DATA AS RECORDED ON JANUARY 27, 1975

Sampling Point	Meteorological Tower
Barometric Pressure	593.30 mm Hg
Temperature	29°F
Wind Velocity	5 Miles per Hour
Wind Direction	Northwest
Relative Humidity	73%
	The day was partly clear with some snow on the ground

TABLE 2

ANALYTICAL DETERMINATIONS OF VOLATILE TRACE METALS AND SULFUR DIOXIDE SAMPLED AT THE C-b TRACT

Metal	Analytical Basis	Total Volume of Air Sampled (liters)++	PPB (v/v)
Arsine	*	187.44	0.00 (3.1)[@]
Selenium**	*	249.99	0.00 (0.10)[@]
Mercury+	*	109,334.49	0.00 (0.012)[@]
Sulfur Dioxide	Airborne SO_2 was trapped in the tetrachloromercurate (II) solution to produce disulfito complex. Color was developed by adding solutions of formaldeyde and acid-bleached pararosaniline to the complex. Intensity of colors was measured spectrophotometrically.	562.32	0.00

* Analytical bases for arsine, selenium and mercury are given in Laboratory Data Letter 74-134, December 4, 1974.

** Concentration expressed as selenium dioxide.

+ Analyzed by Commercial Testing Laboratories, Denver, Colorado.

++ Measured volumes were corrected for BP and temperature.

@ The numbers in parenthesis are concentrations of these metals measured and reported in Laboratory Data Letter 74-134, December 4, 1974.

TABLE 3

SIZE DISTRIBUTION OF AIRBORNE PARTICULATE MATTER IN THE RESPIRABLE RANGES AT THE C-b TRACT

Sampling Time = 21 hours and 15 minutes

Total Particulate Matter Collected = 15.1 mg

Size Range (microns)*	Concentrations ($\mu g/m^3$)
7.0 - Above	1.77
3.3 - 7.0	1.89
2.0 - 3.3	6.62
1.1 - 2.0	2.13
0.01 - 1.1	5.44**

* Aerodynamic diameter of the particulate matter.

** Although this represents particulate matter of 0.01 - 1.1 microns aerodynamic diameter collected on the back-up filter (8"x10"), at least two soot particles of much larger diameters were observed on the filter. This may have happened due to "particle bouncing phenomenon" -- a common occurrence in almost all particle sizers.

THE OIL SHALE CORPORATION
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LOS ANGELES, CALIFORNIA 90067

February 11, 1975

Dr. Max W. Legatski
C-b Shale Oil Project
2 Park Central, Suite 555
1515 Arapahoe
Denver, Colorado 80202

Re: Correction to Laboratory Data Letter 74-134, Air Monitoring and Analytical Determinations of Volatile Trace Metals at the C-b Tract

Dear Max:

In the above referenced Laboratory Data Letter, dated December 4, 1974, the mercury concentration (see Table 2) should be 0.006 ppb (v/v) instead of 0.012 ppb. Please correct your copy.

This change is necessitated due to the fact that the chemist-in-charge at The Commercial Testing Laboratories, Denver, Colorado, had used an incorrect factor for calculating mercury concentration. This was brought to my attention by Dr. M. L. Jacobs of the same laboratory only recently.

Very truly yours,

A. D. SHENDRIKAR
Senior Research Chemist

ADS/dt

bcc: B. L. Schulman
J. H. Barney
K. D. Van Zanten
G. C. Kane

A 24-HOUR "QUICK-LOOK"
AT THE AIR QUALITY & METEOROLOGY
OF TRACT C-b

28 JANUARY - 29 JANUARY 1975

C-b Shale Oil Project
Two Park Central, Suite 555
1515 Arapahoe St.
Denver, Colorado 80202

FOREWORD

This intensive field investigation and its resulting report had many contributors. They are:

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- Roy Dameron
- George Fosdick, Task Coordinator and Editor
- Joan Gibbs
- Miles La Hue

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- Jerry Umphries

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- David Jones
- Robert Lee

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- William Marlatt

TOSCO LABS

- Frank Haas
- Arun Schendrikar

INTERESTED OBSERVERS

- William Roberts, TOSCO
- Roger Tucker, Staff Meteorologist for the Area Oil Shale Supervisor
- Kenneth Van Zanten, TOSCO

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I. INTRODUCTION

An intensive, 24-hour field investigation in the area of air quality and meteorology was conducted at the Federal Oil Shale C-b Tract from 1600 MST on January 28 to 1600 MST on January 29, 1975. Purposes of this investigation were as follows:

1. To check on the operational status of the existing air quality and meteorological instrumentation at the site.
2. To coordinate the activities of all subcontractors over a short, intensive period.
3. To obtain reduced data within approximately 24-hours after termination of the field test. Data requiring laboratory facilties were reduced by February 6, 1975 (one week later).
4. By virtue of the above, to circumvent the 3 to 4 month data-lag problem associated with the conventional reporting channels.
5. To investigate possible gaseous emission sources on or near the Tract.
6. To correlate several methods of assessing atmospheric stability.

The time period was selected to coincide with the previously scheduled quarterly upper-atmospheric soundings. A heavy snowstorm prevented the data-day from beginning at a scheduled time of 0500 MST on January 28th; the snow subsided by 1600 hours, so the data-day started then and actually ended with the 1700 MST sounding on the 29th.

Regular field instrumentation was utilized for this test, supplemented as follows:

1. Data from a second acoustic sounder at the Colony site was correlated by Marlatt & Associates with that from the meteorological tower site.
2. Bivanes have been installed at the 30', 100', and 200' levels on the meteorological tower; for the field test the 30' level was not yet operational. Strip chart recorders were installed for this test by Radian in Trailer 023 at the Met Tower site to record the instantaneous vertical component of the wind direction at the 100' amd 200' levels; standard deviations (σ_ϕ) were reduced by Radian for 1 minute averaging times, assuming that the range of the data spread corresponded to $4\sigma_\phi$.
3. Temperature-altitude readings were obtained by E G & G in 50 foot increments to 6,000 ft. above the tract instead of the previous 100 foot intervals.
4. As a result of the strong surface temperature inversions indicated by this test, an additional temperature sounding was obtained on 2 February directly over the Rock School trailer site and horizontal temperature gradients were measured.
5. An SO_2 impinger was installed by TOSCO Labs for the test period on top of Trailer 023.
6. MSA portable sampling pumps were used by the C-b Shale Oil Project to sample H_2S at locations SG1 and AT1, as shown

on the map of Oil Shale Tract C-b (included in Summary Report #1).

II. BASIC DATA OBTAINED

The basic data obtained are summarized on the accompanying table. The 42 figures are included at the back of this document.

SUMMARY OF DATA OBTAINED

DATA DAY:
Start 1600 Tuesday 28 January
End 1600 Wednesday 29 January

	DATA DESCRIPTION	OBTAINED BY	FIGURE NO.
1.	Computer hardcopy of 5 min. averages of all AQ and low altitude meteorology data for 5 stations, including Met. Tower with bivanes operational at 100' and 200'.	Radian	Trailer 020 3 021 4 022 5 023 6 024 7
2.	Cloud and sky conditions (hourly) at the tract, location 023 (incl. temp. at 8', RH at 8', wind dir. at 30', wind speed at 30', Pasquill stability, net radiation index).	Radian	8
3.	Hourly meteorological observations at the C-b Tract.	Radian	9
4.	Hourly meteorological conditions at Grand Junction.	Radian	10
5.	Synoptic reports for Grand Junction.	Radian	11
6.	Meteorological summary	Radian	Text
7.	Bivane vertical component of wind direction and associated standard deviations as 1 min. averages.	Radian	*100' alt. 12a 200' alt. 12b **100' alt. 13
8.	Effects of averaging time on σ_ϕ and Stability Class.	Arco	14 a & b

*Strip Chart
**Tab Data

9.	Acoustic sounder strip charts	Marlatt	C-b Met Tower Site Colony Dere Ridge	15 16
10.	Acoustic sounder tabulated data of heights of turbulance layers and inversion layers.	Marlatt	C-b Met Tower Site Colony Dere Ridge	17 18
11.	Skew T, log p diagrams for Grand Junction	EG&G	0500 MST 1700 MST	19 20
12.	Temperature sounding plots	EG&G	0525 MST 0820 MST 1130 MST 1720 MST	21 22 23 24
13.	Temperature sounding tab. data (temp. vs alt.)	EG&G	0525 MST 0820 MST 1130 MST 1720 MST	25 26 27 28
14.	Pilot balloon soundings	EG&G	0502 MST 0802 MST 1100 MST 1710 MST	29 30 31 32
15.	Volatile trace metals (mercury, arsenic, selenium)	Tosco Labs		33
16.	Particulate size distribution via Anderson Sampler (Met Tower)	Tosco Labs		34
17.	SO_2 impinger sampling at Met Tower	Tosco Labs		33
18.	H_2S sampling via MSA portable sampling pump at SG1 & AT1	Arco		35

III. OPERATIONAL STATUS

A. METEOROLOGY

All meteorological instrumentation in the 5 trailers, on the meteorological tower, associated with upper atmospheric soundings and the acoustic sounders was operational during this test with the following exceptions:

1. The bivane at the 30' level on the meteorological tower is not yet operational.
2. The differential temperature (DT1) from the 100' to the 30' level on the meteorological tower was inoperative due to a faulty translator card.
3. Software changes appear to be needed to accomodate changed averaging times for the standard deviations in both the horizontal and vertical components of wind direction.
4. The snow gage in Trailer 021 indicated precipitation during the last 3 or 4 hours of the test when no precipitation occurred. High evaporation rates and windy conditons tend to make all precipitation readings on the light side.
5. The temperature sensor in the aircraft appears to have approximately a +3°F bias. (Fig. 37)
6. Inasmuch as strong surface temperature inversions occur at Rock School below the (plateau) level of the tract, it is recommended that the acoustic sounder at

the Colony site be moved to Trailer 021 at Rock School as soon as weather permits.

7. A single technique to assess atmospheric stability (the subject of Section IV A) has not yet been selected. In view of this, it is recommended that the upper atmospheric soundings be continued until this issue is resolved.

B. AIR QUALITY

Daily logs are kept at all the trailers. Reference gases are checked approximately once every six months.

The equipment in all 5 trailers was operational with the following exceptions:

1. In Trailer 023 the NOX and NO_2 channels were not working properly.
2. Drift for zeros and spans look large for THC, CO, CH_4 at both 023 and at 020.
3. There have been three earlier power failures since the trailers have come on-line.
4. Trailer 023 lists the last 5-minute value frequently out of time sequence.
5. Entries from the daily logs that reflect on accuracy of the data must find their way into the regular monthly reports.

IV ANALYSES OF THE DATA

A. METEOROLOGICAL SUMMARY

The period from January 28th, 1609 hours to January 29th, 1609 hours, was basically a fair period. The upper "low" which had brought 6 inches or more of snow to the Tract C-b region during the morning and early afternoon hours of January 28th moved northeastward, bringing cool dry air into the region. The entire upper air situation during these two days was basically meridional, with a mean long wave trough located over the Western United States. As the upper low, which had been over Utah on the morning of the 28th, moved northeastward, another weak short wave impulse moved toward the region. By the morning of the 29th, this impulse was located on a northeast-southwest axis from Idaho to California. This system was responsible for advecting middle and high clouds over the Tract C-b region during the last two-thirds of the test period. However, as the system continued to move eastward, snow began to fall during the afternoon of the test in southern Colorado. This precipitation shield continued to move north and northeastward, eventually bringing moderate to heavy snow to western Colorado on the morning of the 30th.

Light to moderate winds prevailed in the Tract C-b region during the period of the test because of the weak surface pressure gradient which dominated the area after the snow-producing low pressure system moved northeastward. Because of the fresh, deep snow cover, the dry, cool air, the clear skies, and very light pressure gradient and wind field, conditions were excellent for radiational cooling in the entire region. As a result, an intense katabatic circulation began to develop in the Piceance Creek valley after sunset on the 28th. Because of the excellent radiation conditions, temperatures dropped rapidly and cold air rushed down the valley and drained from the plateau.

The result of the radiational cooling and katabatic (downslope) flow was the formation of an intense, deep inversion in the area. The inversion was deepest and most intense, of course, in the Piceance Creek valley, particularly near the Rock Creek School. The inversion was not as strong in the eastern higher portions of the valley because of the stronger katabatic winds which prevailed in the upper portions of the valley (more mixing). Also, the inversion was somewhat weaker on the plateau, but was still fairly well-developed in relation to the inversions which normally form at these higher elevations.

The high cloudiness which began to advect over the Tract C-b region shortly after midnight arrested the radiational cooling in the Tract C-b region because of the insulation which it provided (weakened radiational cooling). Nevertheless, the conditions which prevailed on the plateau and in the valley from sunset to midnight and shortly afterwards were remarkable. Surface low temperatures in the monitoring network ranged from -31°F at trailer 021 (Rock Creek School) to 5°F at the 8 foot level of the meteorological tower.

The horizontal and vertical temperature gradients which prevailed in the region were noteworthy. A strong inversion prevailed throughout the area. At the meteorological tower, temperature differences between the 30 foot and 200 foot levels of as much as 5.9°F prevailed during the period from 2100 hours to 2400 hours. The temperature differences, although variable during the night, generally ranged between 2°F and 4°F (200 foot temperature - 30 foot temperature), indicating that the air was indeed very stable. Vertical temperature gradients in the Piceance Creek valley were probably even stronger.

The incoming high cloudiness did stop further cooling. Some meteorological phenomena in the area that were noteworthy are:

> At 0045, the temperature at Trailer 021 was -31° F , while the temperature at the Met Tower was 9° F, a 40° F spread; the temperature fell 16° in one hour (from 17° F to 1° F) from 1725 to 1820 at Trailer 021; the high at Trailer 021 was 35° F during the afternoon, which means this location had a diurnal range of temperature of 66° F; and almost all minimum temperatures in the monitoring network were reached before 2400 hours on the 28th, warming slightly or stablilizing thereafter as the insulating high cloudiness increased in coverage. Minimum temperatures would definitely have been even lower if the cloudiness had not come in when it did. Throughout the rest of the valley, the minimum temperatures were: -15° F at Trailer 022 (0015 hours, January 29th); -20° F at Trailer 020 (0720 hours, January 29th); and -2° F at Trailer 024 on the plateau.

The katabatic (downslope) flow was extremely well-developed, as stated previously. Southeast winds of as much as 18 miles per hour were experienced at Trailer 022. Although winds were rather light and generally northwesterly early in the evening in the network, they became southeasterly (downslope) throughout the area as the downslope flow intensified. Winds at 021 were light throughout the

the night, as is usually the case, which allowed the cooling to progress rapidly because of the limited mixing and strong inversion conditions that existed.

Light southeasterly winds prevailed in the Tract C-b region during the day as cloudiness increased in advance of the next short wave. Temperatures edged slightly above freezing at all valley trailers (33° F at 020, 35° F at 021, and 34° F at 022). Trailer 024 (on the plateau) had a 33° F maximum, while the high was only 30° F at the 8 foot level of the meteorological tower.

Solar insolation was rather intense during the late morning and early afternoon hours, as the pyranometer recorded a solar radiation rate of .89 langley/min. shortly after noon. The strong insolation was made possible by fair skies (mostly high cloudiness) during the morning and early afternoon and the rather dry nature of the air, which resulted in high transmittance characteristics.

B. ATMOSPHERIC STABILITY ASSESSMENT

1. Temperature - altitude soundings

   a. From the four soundings, the stability classes are:

0525 MST	E STABILITY	1000'-2600',	G@3000'
0820	E	200'-3000',	F@0'
1130	D	0'-2600',	E>2600'
1720	D	0'-2200',	E>2200'

   (Reference Figures 21-25, 36,42)

   b. A strong surface inversion in the Piceance Valley existed in the early morning hours; it lifted by the 1130 flight.

c. For this date, Pasquill-Gifford stability classes indicated by this technique were insensitive to altitude between 200' and 2200'.

d. These stability indications will be used as the reference for comparison with the other techniques discussed in this report.

2. Temperature increments from the Met. Tower

a. The temperatures indicated at the Met. Tower at 8', 30', 100', and 200' and the temperature differences indicated between (30' and 100') (Symbol DT1) and (30' and 200') (Symbol DT2) are presented on Figure 37. Also shown are the calculated temperature differences, a calculated value for slope of the temperature-altitude curve and the resulting stability classes. Also shown for comparisons are the temperature and stability classes obtained from the aircraft soundings.

b. At 0820, 1130, and 1725 MST the stability classifications obtained from DT2 agreed with those obtained from the aircraft sounding (E,D,D respectively).At 0525 MST the aircraft sounding was obtained down to 1000' above the Met. Tower indicating E stability at that level; at an average altitude of 115', DT2 yielded a stability class of F. The tower temperatures indicated an inversion to altitudes above the Met. Tower.

3. Wind Speed

   a. Assuming that the Beaufort wind speed classifications equate to the Pasquill-Gifford stability classifications as indicated on Fig. 39, atmospheric stability classifications are presented at 0525, 0820, 1130 and 1600 MST. Those obtained from the aircraft soundings are shown for comparison.

   b. By this technique, at the above respective times, the classifications were E,D,D,E as compared to E,E,D,E for the aircraft. Thus agreement was achieved in 3 of 4 cases.

4. Solar Radiation Index

   a. The stability classification from this technique is given on Fig. 8 and (by interpolation) indicates D, D, D, D at 0525, 0820, 1130 and 1600 (possibly changing to E at 1720). Agreement was achieved in 2 of 4 cases if E is assumed at 1720.

   b. This technique cannot be used at night with the present instrumentation.

5. Standard Deviations in the Horizontal Component of Wind Direction (σ_θ)

   a. Included in the hardcopy printout of Figure 6 for the Met. Tower (included as part of Trailer 023 hardcopy) is the variance of the horizontal component of wind direction (σ_θ^2) at altitudes of 8', 30', 100' amd 200' for the horizontal component of the bivanes; however the 30' level was not yet operative at the time of this test. Computed values of the standard deviations are presented on Figure 38 with associated Pasquill stability values as indicated according to the following:

σ_ϕ (DEG)	PASQUILL-GIFFORD STABILITY CLASSIFICATIONS
>23	A
18-23	B
13-18	C
8-13	D
4- 8	E
2- 4	F
<2	G

b. For these 5-minute averaging times the agreement with stability classifications derived from the aircraft soundings as indicated on Figure 38 is relatively poor:

Horizontal	16 cases - only 2 agree
Bivane	8 cases - only 1 agrees

Furthermore both vanes agreed with each other in only 2 of 8 cases.

Future tests are needed wherein averaging times for σ_θ are varied from 15 seconds to 15 minutes for correlation purposes.

6. Standard Deviation in the Vertical Component of Wind Direction (σ_ϕ)

a. The effects of averaging time on σ_ϕ are presented on Figures 14a and 14b for averaging times of 15 sec., 30 sec., 1 min., 2 min., and 5 min.

As indicated on Figure 14b, the stability classifications from this technique for the 15 sec. and 30 sec. averaging times agree with those from the aircraft sounding; averaging times greater than 30 sec. yielded erroneous results with the exception of 1 value.

b. A 30-second-averaging-time software change will be investigated.

c, The stability classifications were determined from the following table:

σ_ϕ RANGE (DEG)	PASQUILL STABILITY CLASSIFICATION
>15	B
9-15	C
6-9	D
2-6	E
0-2	F

7. Acoustic Sounder

a. The strong inversion layer @ 0820 MST was below the elevation of the tract(i.e.in the Picenace Valley) so it was non-detectable by the sounder at the Met. Tower.

b. At 0820 there are weak locally stable layers located at:

	1st	2nd
Top	920'	1270'
Bottom	770'	1060'

as indicated on Figure 22. The sounder picked up the top of the 2nd layer as indicated on Figure 15.

c. A moderately strong inversion layer starting at 3940 ft. altitude above the tract at 1130 MST is off the sounder chart.

C. OTHER METEOROLOGICAL DATA

1. Wind Patterns

Wind patterns throughout the day are shown on Figure 40 in miles-per-hour units at the five trailer locations. The reader should refer back to the meteorological summary for a general discussion of the wind patterns. Note that the down-valley direction for sites in the Piceance Creek (020, 021,022) is northwesterly (i.e. winds from the southeast) and that the downslope direction for both sites (023 and 024) on the plateau is generally northerly (i.e. winds from the south half plane). The winds at 1600 hours are up-valley and downslope. By 2000 hours, a near-calm exists at the plateau sites which persists through 0000 hours; winds are downvalley. The downvalley winds at the Oldland Ranch (site 022) persist until afternoon of the 29th but previously ceased by 0800 at Redd Ranch. A near-calm has existed at the Rock School (site 021) from midnight until late morning of the 29th where an intensive surface temperature inversion has built up from the cool drainage flows of the evening and early morning. By noon the inversion has broken and a complex wind structure which is downvalley (at 021 and 022) at both ends and up-valley in the middle (020) exists.

2. Temperature Gradients

The four temperature vs. altitude soundings obtained on the 29th by E G & G are shown on Figures 21 - 24 at 0525, 0820, 1130 and 1720 MST respectively. Associated tabulated data for the pibal releases at (nominally) the same times are presented on Figures 29 - 32. Temperatures below the altitude of the Met.Tower are obtained by flying the aircraft from near surface level up the Piceance Creek (for the 0820 and 1130 soundings) to a point midway between Rock School and Redd Ranch and thereupon initiating a steady rate of climb to the Met. Tower followed by a spiralling ascent around the tower at a constant rate of climb to 13,000 feet MSL (mean altitude above sea level) corresponding to 6,000 feet above the ground level at the tower. Figure 22 indicates a very strong surface inversion at 0820 hours in the Piceance Valley up to just below the level of the tower, with near neutrally stable air aloft. Figure 23 indicates this inversion broke prior to 1130 hours with unstable air to around 10,000 feet followed by a weak inversion aloft between 11,000 feet and 11,500 feet.

Strong surface horizontal temperature gradients were noticed during the test period, as evidenced on Figure 41. For example, at 0600 on the 29th temperatures of -26, -7, and -8°F were recorded at the Rock School, Redd Ranch and the Oldland Ranch sites respectively in Piceance Creek and +11°F at the Met. Tower site. Thus, the strongest vertical temperature gradient (i.e. the inversion) occurs at Rock School where the canyon walls are steepest and drainage effects are strongest. Because of the horizontal surface temperature gradient which existed during the inversion an additonal vertical sounding directly over Rock School was obtained on 2 February, shown on Figure 42. At this same time period (actually 0912 on 2 February), a constant altitude flight at 7200 feet MSL was made by E G & G from directly over Rock School to the C-b Tower site indicating no horizontal temperature gradient at that elevation. Thus the inversion was really limited in vertical extent to only over the valley region and did not extend over plateaus. An additional flight was made at 0810 MST on 9 February when no inversion existed up Piceance Creek from Rock School to the Oldland Ranch at a near-surface altitude of 6400 feet MSL indicating less than 1°F horizontal gradient. Thus the large horizontal gradients are confined to the valleys and exist only in the presence of an inversion.

D. AIR QUALITY

Hardcopy printouts from the five air quality trailers, designated 020 thru 024 respectively are presented on Figures 3 - 7 in time intervals of 5 minutes. Daily summaries for 28 January and daily calibrations are also provided as part of the hardcopy. Symbols used appear on Figure 1.

Maximum 5 minute averages and daily averages for 28 January are as follows:

MAXIMUM 5 MINUTE AVERAGES ON 28 JANUARY
(ppb)

TRAILER	NO_x	NO	SO_2	H_2S	THC	CH_4	CO	O_3
020	8	6	3	9	1651	1763	991	62
021			6	5				
022			0	0				
023	6	52	10	8	1499	1421	1690	51
024			4	0				

DAILY AVERAGE FOR 28 JANUARY
(ppb)

TRAILER	NO_x	NO	SO_2	H_2S	THC	CH_4	CO	O_3
020	3	0	0	0	1380	1377	901	50
021			1	0				
022			0	0				
023	1	3	1	2	1377	1326	1551	42
024			4	0				

As noted in Section III, the NO_x channel for Trailer 023 was not operating properly during the test.

Analytical determination of airborne concentrations of volatile trace metals,e.g. arsenic (hereafter referred to and determined as arsine), selenium and mercury at the C-b tract are reported by TOSCO Labs on a quarterly basis. Samples were collected at the meteorological tower on January 27, 1975. The sampling technique and analytical methodology used for arsine, selenium and mercury were outlined in Tosco Laboratory Data Letter 74-134, dated December 4, 1975. The concentrations of these metals and sulfur dioxide were found to be below the detection levels of the analytical methods used (see Figure 33) although the methods used for analysis are reportedly quite sensitive.

On January 29, 1975, one sample for sulfur dioxide was collected by passing the air through an impinger that contained 10 ml solution of tetrachloromercurate (II) solution (TCM). The TCM solution was subsequently analyzed for sulfur dioxide content using West-Gaeke method. This method essentially consists of absorbing sulfur dioxide into TCM solution. This results in the formation of a stable dichlorosulfitomercurate complex. The color is developed by adding solutions of formaldehyde (0.2% v/v) and acid-bleached pararosaniline (0.2% w/v).

Pararosaniline, formaldehyde and bisulfite anions react to form an intensely colored complex which is measured spectrophotometrically at 548 nm. Absorbance is linearly proportional to the sulfur dioxide concentration.

Air sampling for particulate matter in the respirable ranges was performed using an Andersen sampler (see Figure 34 for results). The Andersen head attachment to the high volume sampler is a multi-stage, multi-jet cascade impactor. It is made of five aluminum plates separated by neoprene rubber gaskets. The standard 8"x10" high volume glass fiber filter acts as a back-up. Each plate contains 300 equally sized holes. The holes are aligned so that the air streams through the holes are directed at the surfaces of the plate below. The diameter of the holes decreases from plates one to four. Plates are covered with circular glass filters which have holes aligning with the holes in the plates supporting them. The mass of particulates, on a particular stage or plate, is determined by the usual gravimetric procedure (i.e. difference in weights is determined by using an analytical balance). The filters resting on plates 2,3,4,5 and the back-up filter correspond respectively to aerodynamic diameters of 7.0 microns and above, 3.3 to 7 microns, 2.0 to 3.3 microns, 1.1 to 2.0 microns, and 0.01 to 1.1 microns.

Finally, hydrogen sulfide was sampled on January 29th at locations SG1 and AT1 by the C-b Shale Oil Project using an MSA portable sampling pump. No detectable amounts were measured (Fig. 35).

FIG. 1

ABBREVIATIONS FOR THE VARIOUS AIR QUALITY AND METEOROLOGICAL TOWER CHANNELS*

TIME	Mountain Standard Time
NOX	NOX in parts per billion
NO	NO in parts per billion
SO_2	SO_2 in parts per billion
WS1	Wind speed at 8 foot level in miles per hour
WD1	Wind direction at 8 feet in degrees, referenced clockwise from true north.
RH1	Relative humidity at 8 feet, expressed as a percentage
TIN	Inside temperature
TMP1	Temperature at 8 feet, in ° F
PYR	Pyranometer readings in $cal/cm^2/min$
H_2S	Hydrogen Sulfide in parts per billion
THC	Total Hydrocarbons in parts per billion
CH_4	Methane in parts per billion
CO	Carbon Monoxide in parts per billion
O_3	Ozone in parts per billion
WS2	Wind speed at 30 feet in miles per hour
WD2	Wind direction at 30 feet in degrees
RH2	Relative humidity at 30 feet
TMP2	Temperature at 30 feet in ° F
WS3	Wind speed at 100 feet in miles per hour
WD3	Wind direction at 100 feet
RH3	Relative humidity at 100 feet
TMP3	Temperature at 100 feet

*Sybmols are used in Figures 3 through 7 specifically.

FIG. 1 cont.

WS4	Wind speed at 200 feet
WD4	Wind direction at 200 feet
RH4	Relative humidity at 200 feet
TMP4	Temperature at 200 feet
DT1	Δ Temperature between 100 feet and 30 feet ($T_{100}-T_{30}$) A (-) precedes negative values in hundredths of degrees Fahrenheit.
DT2	Δ Temperature between 200 feet and 30 feet ($T_{200}-T_{30}$) (hundreths of degrees Fahrenheit)
PRES	Station pressure in millibars
WS5	Wind speed at 30 feet (Bivane)
HWD5	Horizontal wind direction at 30 feet (Bivane)
VWD5	Vertical wind direction at 30 feet (Bivane)
WS6	Wind speed at 100 feet (Bivane)
HWD6	Horizontal wind direction at 100 feet (Bivane)
VWD6	Vertical wind direction at 100 feet (Bivane)
WS7	Wind speed at 200 feet (Bivane)
HWD7	Horizontal wind direction at 200 feet (Bivane)
VWD7	Vertical wind direction at 200 feet (Bivane)
	Level 5=30' Bivane
	Level 6=100' Bivane
	Level 7=200' Bivane
WDV1	Variance of horizontal wind direction at 8 feet
WDV2	Variance of horizontal wind direction at 30 feet
WDV3	Variance of horizontal wind direction at 100 feet
WDV4	Variance of horizontal wind direction at 200 feet
HWV5	Variance of horizontal wind direction at 30 feet (Bivane)
WVV5	Vertical wind direction variance at 30 feet (Bivane)

FIG. 1 cont.

HWV6	Variance of horizontal wind direction at 100 feet (Bivane)
VWV6	Vertical wind direction variance at 100 feet (Bivane)
HWV7	Variance of horizontal wind direction at 200 feet (Bivane)
VWV7	Vertical wind direction variance at 200 feet (Bivane)
RAIN	Precipitation rates in .01 inches. "1" bucket tip or pulse represents .01 inch of precipitation, in a rate of fall representation.

FIG. 2

SUMMARY OF METEOROLOGICAL SYMBOLS AND ABBREVIATIONS

CLOUD COVERAGE

SYMBOL	MEANING	SKY COVERAGE
O	Clear	1/10> cloud coverage of Celestial Dome
⦶	Scattered	1/10≤ cloud cover < 6/10
⦷	Broken	6/10≤ cloud cover ≤ 9/10
⊕	Overcast	9/10< cloud cover
- ⦶	Thin scattered	Scattered coverage, not opaque
- ⦷	Thin broken	Broken coverage, not opaque
- ⊕	Thin overcast	Overcast, not opaque

METEOROLOGICAL DEFINITIONS AND ABBREVIATIONS

SC	Stratocumulus
CI	Cirrus
CS	Cirrostratus
CC	Cirrocumulus
AC	Altocumulus
AS	Altostratus
OMTNS	Over the Mountains
SWU	Snow shower of unknown intensity
CU	Cumulus
E	Estimated

FIG. 3 TRAILER 020 HARDCOPY

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020 1620 01/28/75
TIME    NOX   NO   SO2   WS    WD    RH   TIN TOUT  H2S   THC   CH4   CO    O3   WDV RAIN
        PPB   PPB  PPB   MPH   DEG   PCT  DGF  DGF  PPB   PPB   PPB   PPB   PPB  DEG  HOT

1520     2     0     0     5   333   86   65   17     0 1348 1334   904   59   156    0
1525     2     0     0     5   313   84   63   17     0 1431 1348   911   59   103    0
1530     4     0     0     5   325   83   62   17     0 1590 1375   923   58   524    0
1535     5     0     0     3   330   82   64   17     0 1651 1392   906   58  1216    0
1540     4     0     0     7   295   80   65   18     0 1436•1444   928   58   186    0
1545     2     0     0    10   301   74   65   19     0 1387 1358   911   58   134    0
1550     5     0     0    10   296   71   62   19     0 1356•1424   906   57   312    0
1555     5     0     0    13   300   68   63   19     0 1353•1495   909   57    17    0
1600     6     0     0    11   302   66   64   19     0 1356•1370   879   57     2    0
1605     5     0     0     9   300   65   65   19     0 1483 1404   877   57   131    0
1610     1•    2     0     9   300   65   64   19     0 1473 1422   896   57   312    0
1615     2     0     0    10   303   63   62   19     0 1385•1409   911   56   163    0
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020 1720 01/28/75
TIME    NOX   NO   SO2   WS    WD    RH   TIN TOUT  H2S   THC   CH4   CO    O3   WDV RAIN
        PPB   PPB  PPB   MPH   DEG   PCT  DGF  DGF  PPB   PPB   PPB   PPB   PPB  DEG  HIT

1620     0     0     0    10   305   63   64   19     0 1368•1422   901   57   314
1625     4     4     0    10   296   62   64   18     0 1414•1422   879   57   246
1630     5     0     0    12   291   61   64   18     0 1424•1434   887   57    93
1635     4     0     0     9   295   61   62   18     0 1353•1378   916   56   248
1640     4     2     0     8   299   61   63   17     0 1446 1409   909   56   310
1645     3     0     0     8   299   61   64   17     0 1417•1473   884   56    23
1650     3     1     0     6   293   61   65   16     0 1363•1365   877   55   157
1655     6     0     0     4   292   62   62   15     0 1339•1368   856   55   288
1700     0•    1     0     1   309   63   62   14     0 1417 1378   894   54  2424
1705     4     0     0     0     0   65   64   14     0 1378•1397   862   54   365
1710     7     1     0     0    48   67   64   12     0 1342•1375   850   53    64
1715     4     2     0     0    84   70   63   12     0 1395 1370   892   51    98
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020 1820 01/28/75
TIME    NOX   NO   SO2   WS    WD    RH   TIN TOUT  H2S   THC   CH4   CO    O3   WDV RA
        PPB   PPB  PPB   MPH   DEG   PCT  DGF  DGF  PPB   PPB   PPB   PPB   PPB  DEG  H

1720     6     0     0     0    94   73   62   11     0 1375•1424   855   50  1559
1725     4     0     0     0   104   77   63   10     0 1365•1370   844   50  1034
1730     2     0     0     0   100   80   64    9     0 1363•1373   832   49  1755
1735     4     0     0     1    85   82   64    8     0 1417 1392   834   48    74
1740     8     2     0     3   132   83   62    7     0 1434•1453   918   48   598
1745     6     6     0     3   120   85   63    5     0 1434•1452   914   47   237
1750     2     0     0     4   117   86   63    3     0 1435•1439   836   47    74
1755     8     2     0     5   122   88   64    2     0 1434 1431   839   43   125
1800     2     1     0     4   122   88   64    1     0 1431•1446   884   48    77
1805     6     0     0     5   117   89   62    0     0 1392•1439   844   43   284
1810     5     0     0     6   117   90   62-    1     0 1407•1412   916   46   422
1815     8     0     0     5   110   91   63-    2     0 1424 1412   882   45   243
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FIG. 3

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020 1920 01/28/75
TIME     NOX    NO   SO2   WS    WD    RH    TIN TOUT  H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF  PPB   PPB   PPB   PPB   PPB   DEG  HIT

1820      6     0     0     4   112    91    64     0     0 1424•1444   901    48   461     0
1825      1•    2     0     3   136    91    64-    3     0 1385•1419   899    47   146     0
1830      3     0     0     6   112    91    64-    2     0 1368•1387   906    47   164     0
1835      8     1     0     5   112    91    62-    2     0 1378•1383   899    47    20     0
1840      6     0     0     5   102    91    62-    2     0 1436 1419   904    49    93     0
1845      4     4     0     6   106    90    63-    3     0 1431•1439   901    49   212     0
1850      8     0     0     6   104    90    64-    4     0 1417•1426   896    48   295     0
1855      7     0     0     6   121    90    65-    4     0 1409•1431   899    49   422     0
1900      0     0     0     6   106    90    64-    6     0 1385•1412   877    47    39     0
1905      4    -0     0     7   108    90    62-    6     0 1456 1453   914    48    56     0
1910      3     0     0     7   108    91    63-    6     0 1468•1500   899    46   305     0
1915      7     0     0     7   108    91    63-    7     0 1434•1466   896    46   164     0
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
020 2020 01/28/75
TIME     NOX    NO   SO2   WS    WD    RH    TIN TOUT  H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF  PPB   PPB   PPB   PPB   PPB   DEG  HIT

1920      8     1     0     9   116    91    64-    8     0 1495 1456   884    46    80     0
1925      2     0     0     8   116    90    65-   10     0 1400•1451   894    48   145     0
1930      4     0     0     6   112    91    63-   10     0 1397•1404   896    48    39     0
1935      2     0     0     7   126    91    62-    8     0 1380•1419   916    49   348     0
1940      7     0     0     5   113    90    62-    8     0 1383•1397   894    49   299     0
1945      5     0     0     5   112    90    63-    9     0 1397 1392   882    49   246     0
1950      3     0     0     6   112    90    64-   10     0 1385•1400   889    49   172     0
1955      4     2     0     6   124    90    65-   10     0 1373•1400   892    49   166     0
2000      3     0     0     5   112    90    63-   10     0 1370•1400   899    50    84     0
2005      3     0     0     7   114    90    62-   10     0 1380•1397   909    49    21     0
2010      3     2     0     6   104    90    63-   10     0 1395•1402   914    50   366     0
2015      4     0     0     5    93    89    63-   11     0 1417•1434   904    50   582     0
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
020 2120 01/28/75
TIME     NOX    NO   SO2   WS    WD    RH    TIN TOUT  H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF  PPB   PPB   PPB   PPB   PPB   DEG  HIT

2020      2     0     0     7   124    89    64-   10     0 1451•1463   918    51   280     0
2025      3     0     0     9   129    89    65-    8     0 1446•1478   923    52   170     0
2030      2     0     0     9   134    88    64-    8     0 1429•1473   928    52    24     0
2035      3•    5     0     8   140    87    62-    8     0 1422•1468   923    52   450     0
2040      4     1     0     7   141    87    62-    8     0 1417•1453   931    52   418     0
2045      3     0     0     7   122    86    63-    9     0 1417•1439   911    51   163     0
2050      4     1     0     7   114    87    64-   10     0 1519 1514   928    51   279     0
2055      4     0     0     6   129    87    64-   11     0 1597•1600   938    51   156     0
2100      0     0     0     7   142    87    65-    9     0 1439•1529   931    52   403     0
2105      2     0     0     6   131    97    63-   10     0 1431•1458   923    52   198     0
2110      6     0     0     6   104    87    62-   11     0 1532 1522   933    51   108     0
2115      3     1     0     7   117    87    62-   12     0 1583•1588   943    51    86     0
```

••

FIG 3

```
020 2220 01/28/75
TIME     NOX    NO   SO2    WS    WD    RH    TIN TOUT   H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   PPB   PPB   PPB   PPB   PPB   DEG  HDT

2120       5     0     0    10   138    86    63-   10     0 1561*1585   931    52   272     0
2125       3     0     0     8   128    86    64-   11     0 1409*1527   945    52   301     0
2130       0     0     0     7   116    86    65-   12     0 1383*1444   928    52   272     0
2135       2     0     0     9   129    86    64-   12     0 1397*1439   921    52   192     0
2140       1     0     0    10   138    86    62-   11     0 1392*1458   921    53   234     0
2145       3     0     0     9   145    85    62-   11     0 1392*1446   950    53    70     0
2150       3     0     0     9   138    85    63-   11     0 1383*1434   940    53   243     0
2155       3     1     0     8   128    85    63-   12     0 1383*1426   945    53   429     0
2200       2     0     0     6   112    85    64-   13     0 1434*1444   931    52   672     0
2205       5     0     0     9   125    85    65-   13     0 1426*1463   923    53   131     0
2210       0     0     0     9   134    85    64-   12     0 1368*1444   918    53   472     0
2215       7     0     0     6   112    85    62-   15     0 1402*1441   950    52   529     0
```

```
*****************************************************************************************
020 2320 01/28/75
TIME     NOX    NO   SO2    WS    WD    RH    TIN TOUT   H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   PPB   PPB   PPB   PPB   PPB   DEG  HDT

2220       4     0     0     9   138    86    62-   14     0 1400*1458   955    53    32     0
2225       7     1     0     9   144    86    63-   13     0 1383*1448   965    53   184     0
2230       4     0     0     9   138    85    64-   13     0 1380*1431   943    54   170     0
2235       3     0     0     9   138    85    64-   13     0 1375*1412   931    53   361     0
2240       2     0     0     8   140    95    65-   14     0 1363*1439   921    53   410     0
2245       4     1     0    10   138    85    63-   13     0 1363*1441   940    53    76     0
2250       4     0     0    10   138    85    62-   13     0 1383*1426   962    53   273     0
2255       3     0     0    10   142    85    62-   14     0 1385*1436   972    53   457     0
2300       1     0     0    11   140    85    63-   13     0 1387*1431   955    53   453     0
2305       5     1     0    12   140    85    64-   13     0 1378*1424   936    53   430     0
2310       6     0     0    12   140    84    65-   14     0 1368*1412   928    53    92     0
2315       5     0     0    11   138    84    65-   14     0 1356*1407   931    53   429     0
```

```
*****************************************************************************************

                       DAILY SUMMARY FOR TRAILER 020    01/28/75

INSTANTANEOUS MAXIMUM VALUES
 NOX       84     TIME 0709
  NO       88     TIME 0709
 NO2       49     TIME 0016
 SO2     1025     TIME 0730
 WS        31     TIME 0609
 H2S      975     TIME 0731
 THC     4758     TIME 0722
 CH4     4680     TIME 0725
 CO      5026     TIME 0726
 O3        63     TIME 1420


MAXIMUM FIVE MINUTE AVERAGES
 NOX        8     TIME 1755
  NO        6     TIME 1745
 SO2        3     TIME 0730
 WS        20     TIME 0935
 WD       354     TIME 1400
 RH        98     TIME 1000
 TIN       67     TIME 0755
TOUT       34     TIME 0445
 H2S        9     TIME 0730
 THC     1651     TIME 1535
 CH4     1763     TIME 1410
 CO       991     TIME 0755
 O3        62     TIME 1415
```

FIG. 3

```
30 MINUTE AVERAGES

TIME    NOX    NO  SO2   WS    H2S  THC  CH4    CO    O3
        PPB   PPB  PPB   MPH   PPB  PPB  PPB    PPB   PPB
0000      2     0    0     4     0 1353 1321   891    43
0030      1     0    0     8     0 1350 1309   886    43
0100      1     0    0     2     0 1350 1311   886    43
0130      1     0    0     5     0 1367 1336   891    42
0200      1     0    0     7     0 1353 1314   889    42
0230      1     0    0     4     0 1353 1306   898    42
0300    CAL   CAL  CAL     0   CAL  CAL  CAL   CAL   CAL
0330      3     0    0     4     0 1439 1519   835    39
0400      1     0    0    10     0 1326 1275   872    46
0430      3     0    0    10     0 1314 1270   876    46
0500      2     0    0    10     0 1282 1297   881    45
0530      3     0    0    12     0 1279 1294   881    44
0600      1     0    0    14     0 1275 1294   889    47
0630    CAL   CAL  CAL     8   CAL  CAL  CAL   CAL   CAL
0700    CAL   CAL    0     6     0  CAL  CAL   CAL    48
0730      0     0    0     8     1  CAL  CAL   CAL    49
0800      0     0    0     7     0 1323 1279   962    50
0830      1     0    0     5     0 1309 1279   901    50
0900      1     0    0    11     0 1333 1297   884    50
0930      2     0    0    15     0 1353 1319   891    55
1000      2     0    0     6     0 1367 1333   889    55
1030      4     0    0     1     0 1377 1343   896    55
1100      4     0    0     2     0 1358 1338   896    56
1130      4     0    0     5     0 1345 1326   891    56
1200      5     0    0    12     0 1394 1355   896    52
1230      4     0    0    14     0 1397 1377   903    58
1300      3     0    0     5     0 1470 1460   903    59
1330      2     0    0     4     0 1421 1424   898    59
1400      5     0    0     3     0 1458 1543   886    61
1430      3     1    0    12     0 1416 1411   903    59
1500      3     1    0     9     0 1367 1350   915    58
1530      4     0    0     8     0 1463 1414   913    57
1600      3     0    0     9     0 1414 1409   891    56
1630      4     0    0     7     0 1389 1404   893    55
1700      4     0    0     0     0 1380 1384   874    52
1730      4     1    0     2     0 1419 1426   898    47
1800      4     0    0     4     0 1411 1428   896    46
1830      6     0    0     5     0 1406 1414   898    47
1900      4     0    0     7     0 1438 1455   893    46
1930      4     0    0     5     0 1384 1402   893    48
2000      2     0    0     6     0 1409 1428   911    50
2030      3     1    0     7     0 1468 1492   925    51
2100      3     0    0     7     0 1492 1533   933    51
2130      2     0    0     8     0 1387 1441   935    52
2200      3     0    0     8     0 1402 1450   940    52
2230      3     0    0     9     0 1375 1431   945    53
2300      4     0    0    11     0 1370 1416   945    53
2330      4     1    0    10     0 1372 1419   945    53


DAILY AVERAGES
 NOX         3
  NO         0
 SO2         0
  WS         7
  WD       203
  RH        87
 TIN        63
TOUT        14
 H2S         0
 THC      1380
 CH4      1377
  CO       901
  O3        50

RAIN      23


LAST CAL
 NOX 0643  01/28      INPUT PPB:    87
     LAST ZERO: -    1     NEW ZERO: -    1  LAST SPAN:    102   NEW SPAN:    89
  NO 0643  01/28      INPUT PPB:    87
     LAST ZERO:      2     NEW ZERO: -    2  LAST SPAN:     99   NEW SPAN:    88
 SO2 0643  01/28      INPUT PPB:   121
     LAST ZERO:      0     NEW ZERO:      0  LAST SPAN:     95   NEW SPAN:   118
 H2S 0643  01/28      INPUT PPB:   121
     LAST ZERO:      0     NEW ZERO:      0  LAST SPAN:    103   NEW SPAN:   118
 THC 0742  01/28      INPUT PPB:  3400
     LAST ZERO:    667     NEW ZERO:      0  LAST SPAN:   3425   NEW SPAN:  3449
 CH4 0742  01/28      INPUT PPB:  3400
     LAST ZERO:  21185     NEW ZERO:      0  LAST SPAN:   3407   NEW SPAN:  3434
  CO 0742  01/28      INPUT PPB:  4499
     LAST ZERO:  -4561     NEW ZERO:      0  LAST SPAN:   4475   NEW SPAN:  4492
  O3 0643  01/28      INPUT PPB:   360
     LAST ZERO:      0     NEW ZERO:      0  LAST SPAN:    362   NEW SPAN:   358

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FIG. 3

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020 0020 01/29/75
TIME    NOX    NO   SO2   WS   WD    RH    TIN TOUT   H2S   THC  CH4   CO    O3    WDV RAIN
        PPB   PPB   PPB  MPH  DEG   PCT    DGF  DGF   PPB   PPB  PPB   PPB   PPB   DEG  HDT

2320      8     1     0   10  140    84    63-   14     0 1361*1409   950    53   164    0
2325      3     0     0   11  145    84    62-   13     0 1370*1422   965    53   116    0
2330      4     3     0   11  146    84    62-   14     0 1375*1429   972    53   331    0
2335      6     0     0   10  149    84    63-   14     0 1375*1422   948    53   453    0
2340      5     2     0    9  146    84    64-   13     0 1370*1414   933    54    84    0
2345      4     0     0   10  152    84    64-   13     0 1368*1412   931    54   358    0
2350      5     0     0   10  152    84    64-   13     0 1370*1419   940    54   279    0
2355      6     1     0   11  150    84    62-   14     0 1375*1436   965    53    70    0
0000      3     2     0   11  145    84    61-   14     0 1383*1451   977    53    28    0
0005      3     0     0   10  145    84    62-   14     0 1370*1436   975    53    42    0
0010      4     0     0   11  144    84    63-   14     0 1358*1409   945    53    37    0
0015      3     0     0   11  145    84    64-   14     0 1358*1397   928    53    58    0


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020 0120 01/29/75
TIME    NOX    NO   SO2   WS   WD    RH    TIN TOUT   H2S   THC  CH4   CO    O3    WDV RAIN
        PPB   PPB   PPB  MPH  DEG   PCT    DGF  DGF   PPB   PPB  PPB   PPB   PPB   DEG  HDT

0020      2     0     0   12  142    84    64-   14     0 1358*1395   926    53   325    0
0025      1     0     0   11  142    84    64-   15     0 1353*1397   931    52    90    0
0030      6     2     0    9  146    84    62-   16     0 1351*1414   955    52   299    0
0035      5     0     0    9  145    84    62-   16     0 1363*1419   977    52   508    0
0040      5     0     0   10  139    84    62-   16     0 1363*1417   962    52   294    0
0045      0     0     0   12  148    84    63-   15     0 1358*1402   955    53   176    0
0050      3     0     0   13  136    84    64-   14     0 1361*1409   938    53    60    0
0055      4     0     0   13  136    84    65-   12     0 1365*1419   940    53   539    0
0100      4     0     0   12  133    83    64-   12     0 1363*1419   943    53   316    0
0105      4     0     0   12  139    83    62-   12     0 1368*1434   965    53   164    0
0110      3     0     0   13  138    83    61-   13     0 1370*1436   982    52   406    0
0115      8     0     0   13  136    83    62-   12     0 1370*1429   975    52   348    0


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020 0220 01/29/75
TIME    NOX    NO   SO2   WS   WD    RH    TIN TOUT   H2S   THC  CH4   CO    O3    WDV RAIN
        PPB   PPB   PPB  MPH  DEG   PCT    DGF  DGF   PPB   PPB  PPB   PPB   PPB   DEG  HDT

0120      7     1     0   13  132    82    63-   12     0 1368*1417   943    53   272    0
0125      0     0     0   13  142    82    64-   12     0 1361*1409   936    53   108    0
0130      5     0     0   13  135    82    64-   12     0 1348*1407   945    52   246    0
0135      5     2     0   11  124    82    64-   10     0 1356*1404   960    52   219    0
0140      4     4     0    9  130    82    61-   11     0 1368*1422   972    52    17    0
0145      6     3     0    9  134    81    61-   10     0 1365*1426   989    52   254    0
0150      1     0     0   10  145    81    62-   10     0 1368*1419   965    52   124    0
0155      5     0     0   10  138    81    63-   10     0 1358*1402   943    52   309    0
0200      6     0     0   10  132    81    64-    9     0 1353*1400   940    53   448    0
0205      4     1     0   10  128    81    65-   10     0 1356*1402   945    53   234    0
0210      6     0     0   10  129    81    64-    9     0 1353*1412   955    52   404    0
0215      4     0     0   11  126    81    62-    9     0 1356*1422   977    52   238    0


START - 0300

XS SPAN    0
XS SPAN    1
XS SPAN   14
```

FIG. 3

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 0320 01/29/75
TIME    NOX   NO   SO2   WS    WD    PH   TIN TOUT   H2S   THC   CH4   CO    O3   WDV FAIN
        PPB  PPB   PPB  MPH   DEG   PCT   DGF  DGF   PPB   PPB   PPB  PPB   PPB   DEG  HDI

0220      4    0     0   12   138    81   61-    9     0 1373•1431   992    51    18     0
0225      5    0     0   13   138    81   62-   10     0 1375•1429   984    51   508     0
0230      4    0     0   13   140    81   63-   10     0 1368•1417   955    51   135     0
0235      5    4     0   15   137    81   64-   10     0 1363•1412   943    52   393     0
0240      4    0     0   13   134    81   64-   10     0 1363•1412   948    51    17     0
0245      3    0     0   12   135    81   63-   10     0 1353•1422   962    51   364     0
0250      6    0     0   12   133    81   61-   10     0 1358•1429   987    50   169     0
0255      2    1     0   11   146    81   61-   10     0 1363•1431   987    51    17     0
0300    CAL  CAL   CAL   11   150    82   62-   10   CAL   CAL   CAL   CAL   CAL    88     0
0305    CAL  CAL   CAL   12   148    82   63-   10   CAL   CAL   CAL   CAL   CAL   268     0
0310    CAL  CAL   CAL   10   146    82   64-   10   CAL   CAL   CAL   CAL   CAL   524     0
0315    CAL  CAL   CAL    9   146    82   64-   10   CAL   CAL   CAL   CAL   CAL    69     0


END - 0333

LAST CAL
 NOX 0300  01/29      INPUT PPB:     87
     LAST ZERO: -    1      NEW ZERO: -   1  LAST SPAN:     89   NEW SPAN:   113
  NO 0300  01/29      INPUT PPB:     87
     LAST ZERO: -    2      NEW ZERO:     1  LAST SPAN:     88   NEW SPAN:   104
 SO2 0300  01/29      INPUT PPB:    121
     LAST ZERO:      0      NEW ZERO:     0  LAST SPAN:    118   NEW SPAN:   115
 H2S 0300  01/29      INPUT PPB:    121
     LAST ZERO:      0      NEW ZERO:     0  LAST SPAN:    118   NEW SPAN:   115
 THC 0300  01/29      INPUT PPB:   3400
     LAST ZERO:    667      NEW ZERO:     0  LAST SPAN:   3449   NEW SPAN:  3483
 CH4 0300  01/29      INPUT PPB:   3400
     LAST ZERO: 21185       NEW ZERO:     0  LAST SPAN:   3434   NEW SPAN:  3510
  CO 0300  01/29      INPUT PPB:   4499
     LAST ZERO: -H561       NEW ZERO:     0  LAST SPAN:   4492   NEW SPAN:  4492
  O3 0300  01/29      INPUT PPB:    360
     LAST ZERO:      0      NEW ZERO:     1  LAST SPAN:    358   NEW SPAN:   368


END - 0355




◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 0420 01/29/75
TIME    NOX   NO   SO2   WS    WD    PH   TIN TOUT   H2S   THC   CH4   CO    O3   WDV RAIN
        PPB  PPB   PPB  MPH   DEG   PCT   DGF  DGF   PPB   PPB   PPB  PPB   PPB   DEG  HDT

0320    CAL  CAL   CAL   10   146    82   63-   10   CAL   CAL   CAL   CAL   CAL   273     0
0325      2    0     0   10   150    83   61-   10     0   CAL   CAL   CAL    49   470     0
0330      4    0     0    9   142    83   62-   10     0   CAL   CAL   CAL    48   160     0
0335      4    0     0    9   148    82   63-    9     0 1385•1390   970    48   432     0
0340      3    0     0   10   148    82   63-    9     0 1380  1380   953    49   306     0
0345      5    0     0   10   142    82   64-    9     0 1390  1380   948    48   224     0
0350      3    0     0    9   150    82   64-    9     0 1409  1365   948    49   309     0
0355      4    0     0    8   150    93   62-    9     0 1407  1370   967    48    42     0
0400      2    0     0    7   154    83   61-    9     0 1412  1380   984    48    70     0
0405      6    0     0    8   144    83   62-    8     0 1412  1370   975    48   420     0
0410      2    0     0    8   149    83   63-    8     0 1409  1368   953    48   425     0
0415      6    0     0    6   152    83   64-    8     0 1407  1361   936    48    90     0
```

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

FIG. 3

```
020 0520 01/29/75
TIME   NOX    NO   SO2    WS    WD    RH   TIN TOUT   H2S   THC  CH4   CO    O3   WDV RAIN
       PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   PPB   PPB  PPB  PPB   PPB   DEG  HDT

0420     4     0     0     6   148    83   64-    7     0 1414 1351  928    48   564    0
0425     4     0     0     7   150    83   63-    7     0 1392 1370  938    48   316    0
0430     3     0     0     1   237    83   61-    8     0 1400 1373  970    46  1239    0
0435     3     0     0     1   180    84   61-    9     0 1458 1412  975    44   776    0
0440     3     0     0     2   321    84   62-    9     0 1505 1459  970    46  7135    0
0445     4     0     0     2   234    84   63-   11     0 1431 1402  960    45   909    0
0450     8     0     0     6   146    85   64-    9     0 1453 1404  943    45   451    0
0455     4     0     0     6   154    85   64-    9     0 1446 1417  933    47   237    0
0500     4     0     0    10   142    85   62-    7     0 1397*1429  957    48   345    0
0505     4     0     0    11   142    84   61-    7     0 1397 1392  972    48    64    0
0510     2     0     0    11   141    84   62-    7     0 1404 1390  975    48   442    0
0515     4     0     0    13   138    83   63-    6     0 1400 1390  965    48   434    0
```

```
********************************************************************************
020 0620 01/29/75
TIME   NOX    NO   SO2    WS    WD    RH   TIN TOUT   H2S   THC  CH4   CO    O3   WDV RAIN
       PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   PPB   PPB  PPB  PPB   PPB   DEG  HDT

0520     2     0     0    13   135    83   64-    6     0 1390 1370  953    48    24    0
0525     3     0     0    13   136    82   64-    6     0 1383 1351  943    48   422    0
0530     3     0     0    13   134    82   64-    7     0 1383 1358  945    48   418    0
0535     3     2     0    13   133    82   61-    7     0 1383 1370  965    47   100    0
0540     2     0     0    11   134    83   61-    8     0 1395 1387  979    47    35    0
0545     1     0     0    11   138    83   62-    8     0 1397 1385  970    47   132    0
0550     4     0     0    13   138    83   63-    8     0 1397 1378  960    48   449    0
0555     3     0     0    14   136    83   64-    7     0 1400 1370  945    48   133    0
0600     3     0     0    12   138    83   64-    7     0 1392 1368  943    48   260    0
0605     3     0     0    11   142    83   63-    8     0 1380 1363  945    48   412    0
0610     4     0     0    10   141    83   61-    8     0 1390 1337  970    48   142    0
0615     3     0     0     6   196    83   61-    9     0 1395 1385  977    45  3869    0
```

```
********************************************************************************
020 0720 01/29/75
TIME   NOX    NO   SO2    WS    WD    RH   TIN TOUT   H2S   THC  CH4   CO    O3   WDV RAIN
       PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   PPB   PPB  PPB  PPB   PPB   DEG  HDT

0620     5     0     0     2   269    84   62-   14     0 1419 1395  982    41  2142    0
0625     4     0     0     1   253    85   63-   13     0 1434*1441  962    44  2239    0
0630     3     0     0     1   334    86   64-   14     0 1402 1402  940    42  1645    0
0635     4     0     0     0    96    87   64-   11     0 1409 1392  933    46  1462    0
0640     3     0     0     1   176    86   63-   11     0 1426 1390  948    42  4355    0
0645     4     0     0     1   126    86   61-   12     0 1456 1439  970    41  2678    0
0650     1     0     0     0   326    86   62-   13     0 1478*1433  975    38  1971    0
0655     0     0     0     0   186    86   62-   14     0 1553 1514  960    37  4943    0
0700     0     0     0     0   318    87   63-   15     0 1553 1485  945    36  4719    0
0705     0     0     0     0    33    87   64-   15     0 1556 1522  931    36  1805    0
0710     0     0     0     0   354    87   64-   16     0 1558 1505  938    35   440    0
0715     0     0     0     0   348    88   64-   17     0 1588 1529  948    34   576    0
```

FIG. 3

```
             PPB    PPB    PPB   MPH   DEG   PCT   DGF   DGF   PPB  PPB  PPB  PPB   PPB  DEG   HIT

0720          0      0      0     1    289    88   62-    20     0 1535 1549  975    35 1027     0
0725          0      0      0     0      0    89   62-    20     0 1568 1551  999    36 5720     0
0730          0      0      0     1    337    89   62-    16     0 1541 1522  999    36 3376     0
0735          0      0      0     2    305    89   63-    13     0 1534 1497  960    36 1404     0
0740          0      0      0     1      0    88   64-    11     0 1514 1463  953    39 7918     0
0745          0      0      0     1    102    87   63-    10     0 1483 1473  955    38 8269     0
0750          0      0      0     1      1    87   62-    10     0 1495 1439  987    34 3166     0
0755          0      0      0     1    237    86   61-    12     0 1541 1490 1001    32 8277     0
0800          0      0      0     1    206    86   62-    13     0 1549 1488 1026    30 5225     0
0805          0      0      0     1      7    86   63-    10     0 1495 1466 1004    38  844     0
0810          0      0      0     3    247    85   64-     8     0 1446 1419  932    43 1834     0
0815          0      0      0     1    126    85   64-    10     0 1495 1395  965    36 2641     0



◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 0920 01/29/75
TIME        NOX     NO    SO2   WS    WD    RH    TIN  TOUT   H2S  THC  CH4   CO    O3   WDV  RAIN
             PPB    PPB    PPB   MPH   DEG   PCT   DGF   DGF   PPB  PPB  PPB  PPB   PPB  DEG   HIT

0820          0      0      0     1    206    85   64-    12     0 1602 1514  992    34 2499     0
0825          0      0      0     9    156    85   62-     6     0 1661 1558 1004    43 1246     0
0830          0      0      0    14    138    82   61      0     0 1544 1426 1001    51  378     0
0835          0      0      0    15    137    79   62      1     0 1378 1378  979    50  376     0
0840          0      0      0    13    146    77   63      1     0 1373 1363  960    51  309     0
0845          0      0      0     9    172    76   64      1     0 1365 1348  945    47 2394     0
0850          0      0      0     5    189    76   65-     2     0 1441 1373  948    41 1474     0
0855          0      0      0     6    185    77   63-     3     0 1524 1510  934    38 1221     0
0900          0      0      0    13    148    77   61      1     0 1453◆1522 1031    48  166     0
0905          0      0      0    14    138    75   62      4     0 1390 1380  992    51  397     0
0910          0      0      0    14    141    74   63      6     0 1380 1370  982    51  466     0
0915          0      0      0    12    146    73   64      6     0 1373 1368  965    52  196     0



◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 1020 01/29/75
TIME        NOX     NO    SO2   WS    WD    RH    TIN  TOUT   H2S  THC  CH4   CO    O3   WDV  RAIN
             PPB    PPB    PPB   MPH   DEG   PCT   DGF   DGF   PPB  PPB  PPB  PPB   PPB  DEG   HIT

0920          0      0      0    11    152    72   65      7     0 1365 1353  962    52  480     0
0925          0      0      0     5    170    72   62      5     0 1397 1361  967    45 2473     0
0930          0      0      0     2    133    72   62      4     0 1422 1407  994    45 4290     0
0935          0      0      0     1     58    72   63      5     0 1407 1392  987    48 4237     0
0940          0      0      0     2     77    71   64      7     0 1402 1397  992    50 1979     0
0945          0      0      0     3    112    71   64      7     0 1409 1392  977    49 4244     0
0950          0      0      0     1    120    70   62      8     0 1419◆1426  987    49 7133     0
0955          0      0      0     3     93    69   61     10     0 1412 1392  967    51  416     0
1000          0      0      0     5    109    68   63     10     0 1402 1385  962    51  146     0
1005          0      0      0     6    102    68   64     11     0 1397 1397  965    51   88     0
1010          0      0      0     7    122    67   64     12     0 1397 1383  977    53  194     0
1015          0      0      0     7    124    67   61     12     0 1397 1390  997    52   24     0



&
5

020 1021 01/29/75
TIME        NOX     NO    SO2   WS    WD    RH    TIN  TOUT   H2S  THC  CH4   CO    O3   WDV  RAIN
             PPB    PPB    PPB   MPH   DEG   PCT   DGF   DGF   PPB  PPB  PPB  PPB   PPB  DEG   HIT

1015          0      0      0     7    124    67   61     12     0 1397 1390  997    52   24     0
```

FIG. 3

```
5

020 1039 01/29/75
TIME     NOX    NO   SO2   WS    WD    RH    TIN  TOUT   H2S   THC   CH4   CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   PPB   PPB   PPB   PPB   PPB   DEG  HDT

1035       0     0     0     2    98    64    62    16     0  1424  1402   975    52   198    0




&
L
UNIT 0 REC 031
UNIT 1 REC 031
UNIT 2 REC 000

M
MAN CAL SYSTEM = 0

CAL  NOX 1049 01/29/75

M
MAN CAL SYSTEM = 1

CAL  NO 1049 01/29/75

M
MAN CAL SYSTEM = 2

CAL  SO2 1049 01/29/75

M
MAN CAL SYSTEM = 3

CAL  O3  1049 01/29/75

M
MAN CAL SYSTEM = 4

CAL  THC 1049 01/29/75

M
MAN CAL SYSTEM = 5

CAL  H2S 1049 01/29/75


Y

LAST CAL
 NOX 1049  01/29      INPUT PPB:     87
    LAST ZERO: -    1      NEW ZERO: -    1  LAST SPAN:     39   NEW SPAN:    113
  NO 1049  01/29      INPUT PPB:     87
    LAST ZERO: -    2      NEW ZERO:      1  LAST SPAN:     88   NEW SPAN:    104
 SO2 1049  01/29      INPUT PPB:    121
    LAST ZERO:      0      NEW ZERO:      0  LAST SPAN:    118   NEW SPAN:    115
 H2S 1049  01/29      INPUT PPB:    121
    LAST ZERO:      0      NEW ZERO:      0  LAST SPAN:    118   NEW SPAN:    115
 THC 1049  01/29      INPUT PPB:   3400
    LAST ZERO:    667      NEW ZERO:      0  LAST SPAN:   3449   NEW SPAN:   3483
 CH4 1049  01/29      INPUT PPB:   3400
    LAST ZERO:  21185      NEW ZERO:      0  LAST SPAN:   3434   NEW SPAN:   3510
  CO 1049  01/29      INPUT PPB:   4499
    LAST ZERO: -H561       NEW ZERO:      0  LAST SPAN:   4492   NEW SPAN:   4492
  O3 1049  01/29      INPUT PPB:    360
    LAST ZERO:      0      NEW ZERO:      1  LAST SPAN:    358   NEW SPAN:    368

H
HI VOL = 1
D
1057 01/29/75
R

020 1057 01/29/75
TIME    NOX    NO   SO2   WS    H2S   THC   CH4   CO    O3
```

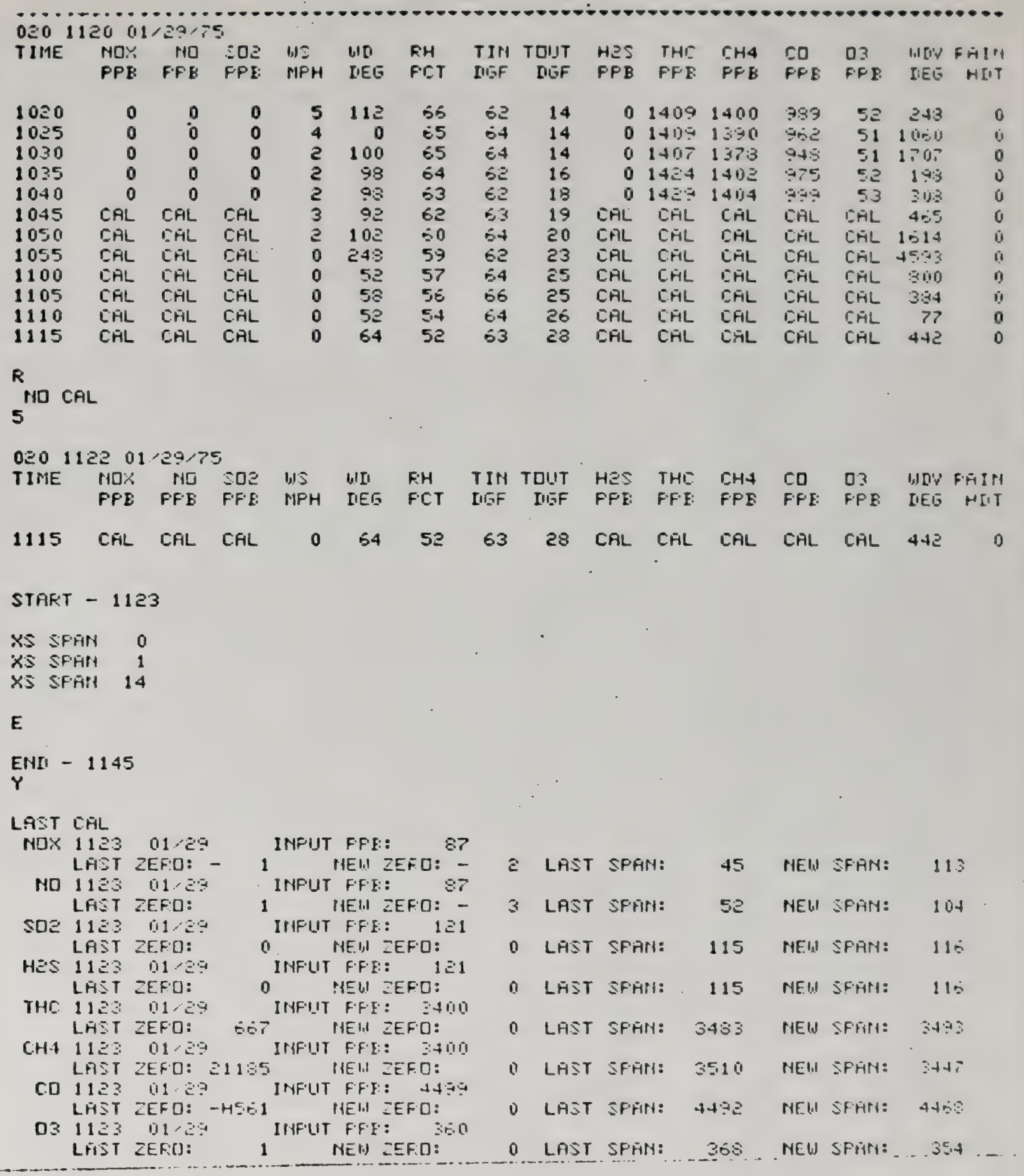
FIG. 3

```
020 1057 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1057 -   11-   18     0     0     0 3498 3466 4475     0

R

020 1059 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1059 -    2*    0     0     0     0 3498 3468 4475     0



R

020 1100 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1101 -    3*    0     0     0     0 3498 3468 4468     0

R

020 1101 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1101 -    3*-   1     0     0     0 3498 3468 4465     0

R

020 1102 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1102 -    2-    4     0     0     0 3498 3468 4465     0

R

020 1103 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1103 -    1*    3    83     0    97 3498 3468 4463   156

R

020 1105 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1105     10*   15   101     0   104 3498 3444 4465   336

R

020 1106 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1106     11*   16   102     0   103 3495 3442 4436   351

R

020 1107 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1107      6*   11   102     0   103 1827*3439 4436   356

R

020 1108 01/29/75
TIME     NOX   NO   SO2   WS    H2S  THC  CH4  CO    O3
         PPB   PPB  PPB   MPH   PPB  PPB  PPB  PPB   PPB

1108     11*   15   102     0   102 1707*3439 4436   359
```

FIG. 3

```
020 1108 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1108     11*  15  102    0  102 1707*3439 4436  359

R

020 1109 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1109     21*  29  102    0  102 1707*2880 4436  359

R

020 1110 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1110     25*  40  109    0  102 1707 1466 2599  359

R

020 1112 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1112     28*  44  118    0  101 1529 1468  992  360

R

020 1113 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1113     27*  43  118    0  101 1485 1466  992  360

R

020 1114 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1114     30*  45  119    0  117 1485 1451  992  362

R

020 1116 01/29/75
TIME    NOX   NO  SO2   WS   H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1116     32*  51  118    0  118 1488 1446  989  360


END - 1117
Y

LAST CAL
 NOX 1049  01/29      INPUT PPB:     87
     LAST ZERO: -   1       NEW ZERO: -    1  LAST SPAN:     89   NEW SPAN:    113
  NO 1049  01/29      INPUT PPB:     87
     LAST ZERO: -   2       NEW ZERO:      1  LAST SPAN:     88   NEW SPAN:    104
 SO2 1049  01/29      INPUT PPB:    121
     LAST ZERO:     0       NEW ZERO:      0  LAST SPAN:    118   NEW SPAN:    115
 H2S 1049  01/29      INPUT PPB:    121
     LAST ZERO:     0       NEW ZERO:      0  LAST SPAN:    118   NEW SPAN:    115
 THC 1049  01/29      INPUT PPB:   3400
     LAST ZERO:   667       NEW ZERO:      0  LAST SPAN:   3449   NEW SPAN:   3483
 CH4 1049  01/29      INPUT PPB:   3400
     LAST ZERO: 21185       NEW ZERO:      0  LAST SPAN:   3434   NEW SPAN:   3510
  CO 1049  01/29      INPUT PPB:   4499
     LAST ZERO: -H561       NEW ZERO:      0  LAST SPAN:   4492   NEW SPAN:   4492
  O3 1049  01/29      INPUT PPB:    360
     LAST ZERO:     0       NEW ZERO:      1  LAST SPAN:    358   NEW SPAN:    363

A
```

FIG. 3



```
020 1120 01/29/75
TIME     NOX    NO   SO2    WS    WD     RH    TIN  TOUT    H2S   THC   CH4    CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG    PCT    DGF   DGF    PPB   PPB   PPB   PPB   PPB    DEG  HDT

1020       0     0     0     5   112     66     62    14      0  1409  1400   989    52    248     0
1025       0     0     0     4     0     65     64    14      0  1409  1390   962    51   1060     0
1030       0     0     0     2   100     65     64    14      0  1407  1378   948    51   1707     0
1035       0     0     0     2    98     64     62    16      0  1424  1402   975    52    198     0
1040       0     0     0     2    98     63     62    18      0  1429  1404   999    53    308     0
1045     CAL   CAL   CAL     3    92     62     63    19    CAL   CAL   CAL   CAL   CAL    465     0
1050     CAL   CAL   CAL     2   102     60     64    20    CAL   CAL   CAL   CAL   CAL   1614     0
1055     CAL   CAL   CAL     0   248     59     62    23    CAL   CAL   CAL   CAL   CAL   4593     0
1100     CAL   CAL   CAL     0    52     57     64    25    CAL   CAL   CAL   CAL   CAL    800     0
1105     CAL   CAL   CAL     0    58     56     66    25    CAL   CAL   CAL   CAL   CAL    384     0
1110     CAL   CAL   CAL     0    52     54     64    26    CAL   CAL   CAL   CAL   CAL     77     0
1115     CAL   CAL   CAL     0    64     52     63    28    CAL   CAL   CAL   CAL   CAL    442     0

R
 NO CAL
5

020 1122 01/29/75
TIME     NOX    NO   SO2    WS    WD     RH    TIN  TOUT    H2S   THC   CH4    CO    O3    WDV RAIN
         PPB   PPB   PPB   MPH   DEG    PCT    DGF   DGF    PPB   PPB   PPB   PPB   PPB    DEG  HDT

1115     CAL   CAL   CAL     0    64     52     63    28    CAL   CAL   CAL   CAL   CAL    442     0

START - 1123

XS SPAN   0
XS SPAN   1
XS SPAN  14

E

END - 1145
Y

LAST CAL
 NOX 1123  01/29      INPUT PPB:     87
     LAST ZERO: -   1      NEW ZERO: -   2  LAST SPAN:     45   NEW SPAN:    113
  NO 1123  01/29      INPUT PPB:     87
     LAST ZERO:     1      NEW ZERO: -   3  LAST SPAN:     52   NEW SPAN:    104
 SO2 1123  01/29      INPUT PPB:    121
     LAST ZERO:     0      NEW ZERO:     0  LAST SPAN:    115   NEW SPAN:    116
 H2S 1123  01/29      INPUT PPB:    121
     LAST ZERO:     0      NEW ZERO:     0  LAST SPAN:    115   NEW SPAN:    116
 THC 1123  01/29      INPUT PPB:   3400
     LAST ZERO:   667      NEW ZERO:     0  LAST SPAN:   3483   NEW SPAN:   3493
 CH4 1123  01/29      INPUT PPB:   3400
     LAST ZERO: 21185      NEW ZERO:     0  LAST SPAN:   3510   NEW SPAN:   3447
  CO 1123  01/29      INPUT PPB:   4499
     LAST ZERO: -H561      NEW ZERO:     0  LAST SPAN:   4492   NEW SPAN:   4468
  O3 1123  01/29      INPUT PPB:    360
     LAST ZERO:     1      NEW ZERO:     0  LAST SPAN:    368   NEW SPAN:    354
```

FIG. 3

```
&
5

020 1147 01/29/75
TIME   NOX   NO  SO2  WS   WD   RH   TIN TOUT  H2S  THC  CH4  CO   O3   WDV RAIN
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  PPB  PPB  PPB  PPB  PPB  DEG  HDT

   0   CAL  CAL  CAL    2  303   49   67   27  CAL  CAL  CAL  CAL  CAL 2151    0

H
HI VOL = 1
1
MAN CAL SYSTEM = 0

CAL  NOX 1151 01/29/75

1
SPAN CHAN =
XS SPAN   0
M
MAN CAL SYSTEM = 0

CAL  NOX 1151 01/29/75

1
MAN CAL SYSTEM = 1

CAL  NO 1151 01/29/75

?

020 1152 01/29/75
TIME   NOX   NO  SO2  WS   H2S  THC  CH4  CO   O3
       PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1152     0    0    0    0    0 1497 1422 2545   60


>

    1153 01/29/75
TIME   NOX   NO  SO2  WS   H2S  THC  CH4  CO   O3
       PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1153     0    0    0    0    0 1497 1422 2545   60

?

020 1153 01/29/75
TIME   NOX   NO  SO2  WS   H2S  THC  CH4  CO   O3
       PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1153     0    0    0    0    0 1497 1422 2545   60

?

020 1154 01/29/75
TIME   NOX   NO  SO2  WS   H2S  THC  CH4  CO   O3
       PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB

1154     0    0    0    0    0 1497 1422 2545   60


END - 1154
<
&
L
UNIT 0 REC 032
UNIT 1 REC 032
UNIT 2 REC 000


     - 1203
```

FIG. 3

```
020 1220 01/29/75
TIME    NOX   NO  SO2   WS   WD   RH   TIN TOUT   H2S  THC  CH4   CO   O3  WDV RAIN
        PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF   PPB  PPB  PPB  PPB  PPB  DEG  HDT

1120    CAL  CAL  CAL    2   78   50   66   28   CAL  CAL  CAL  CAL  CAL  852    0
1125    CAL  CAL  CAL    1   15   50   67   27   CAL  CAL  CAL  CAL  CAL 2013    0
1130    CAL  CAL  CAL    2  338   50   64   25   CAL  CAL  CAL  CAL  CAL  655    0
1135    CAL  CAL  CAL    0   26   50   65   26   CAL  CAL  CAL  CAL  CAL 3760    0
1140    CAL  CAL  CAL    2  303   49   67   27   CAL  CAL  CAL  CAL  CAL 2151    0
1155    CAL  CAL  CAL    3  135   48   65   29   CAL  CAL  CAL. CAL  CAL  211    0
1200    16◆   19    0    3  282   46   66   29     0 1385 1331  975   67  174    0
1205     9◆   13    0    2  108   46   64   30     0 1385 1343 1006   68 5165    0
1210     7◆    8    0    2   74   45   63   31     0 1397 1339 1009   67 1563    0
1215     5◆    8    0    3  145   45   65   30     0 1375 1339  977   68 1039    0
1220     6◆    8    0    3  318   44   65   31     0 1373 1348  957   68 4044    0
1115    CAL  CAL  CAL    0   64   52   63   28   CAL  CAL  CAL  CAL  CAL  442    0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 1320 01/29/75
TIME    NOX   NO  SO2   WS   WD   RH   TIN TOUT   H2S  THC  CH4   CO   O3  WDV RAIN
        PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF   PPB  PPB  PPB  PPB  PPB  DEG  HDT

1225     5◆    8    0    2  152   44   62   31     0 1380 1353  960   68 1040    0
1230     6◆    8    0    5  198   43   65   31     0 1368 1334  972   67 1217    0
1235     7◆   10    0    6  176   43   66   31     0 1375 1348  948   68  976    0
1240     7◆   11    0    6  219   43   62   31     0 1390 1358  943   68  953    0
1245     8◆   10    0    6  202   42   63   31     0 1363 1339  953   67 2350    0
1250     8◆   10    0    8  206   42   65   31     0 1361 1331  957   68  304    0
1255     9◆   11    0    9  325   42   64   31     0 1370 1339  960   67 2588    0
1300     7◆   11    0    8  180   42   62   31     0 1370 1346  984   67  612    0
1305     8◆   11    0    5  188   41   65   31     0 1368◆1395  982   67 1176    0
1310     7◆    9    0    7  204   41   65   31     0 1365◆1397  997   67  826    0
1315    11◆   12    0    6  202   41   62   31     0 1368◆1370  994   67 1124    0
1320     9◆   10    0    7  213   41   64   31     0 1358◆1409 1004   66  794    0
```

```
[illegible]

[illegible] 1121 01 59 52
[illegible] = 1

[illegible] 1121 01 [illegible] 52
[illegible] = 0
[illegible] 0
[illegible]
```

FIG. 3

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◆ ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
     1420 01/29/75
TIME     NOX   NO  SO2   WS   WD   RH   TIN TOUT  H2S  THC  CH4   CO   O3   WDV RAIN
         PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF  PPB  PPB  PPB  PPB  PPB  DEG  HDT

1325      9◆   11    0    4  181   41    65   32    0 1353◆1387  984   66 1662    0
1330      9◆   12    0    3  206   40    63   32    0 1346◆1348  997   66  792    0
1335      8◆   13    0    5  184   40    62   32    0 1353◆1358  997   66 1196    0
1340      8◆   11    0    4  184   40    65   32    0 1363◆1365  994   66 1228    0
1345     10◆   11    0    7  160   40    65   31    0 1373 1363  999   66  653    0
1350      9◆   13    0    7  170   39    62   31    0 1343◆1353  999   66  452    0
1355     10◆   12    0    7  174   39    64   31    0 1343◆1348 1001   66  630    0
1400     11◆   13    0    7  165   39    65   31    0 1341 1339  967   66  801    0
1405      9◆   12    0    6  174   39    65   31    0 1334 1329  960   66  222    0
1410      9◆   12    0    4  162   39    62   31    0 1334 1329  945   65 1653    0
1415      9◆   13    0    4  174   39    64   32    0 1351 1326  945   65  655    0
1420     11◆   13    0    7  206   39    66   32    0 1331 1309  926   66  880    0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 1520 01/29/75
TIME     NOX   NO  SO2   WS   WD   RH   TIN TOUT  H2S  THC  CH4   CO   O3   WDV RAIN
         PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF  PPB  PPB  PPB  PPB  PPB  DEG  HDT

1425     13◆   15    0    4  188   39    63   32    0 1324 1307  918   65 1569    0
1         9◆   13    0    4  178   39    63   32    0 1336 1314  926   65  573    0
         10◆   11    0    5  197   39    65   32    0 1329 1319  918   65  626    0
   0     10◆   14    0    7  174   39    65   32    0 1331 1312  918   66 1264    0
1445     11◆   13    0    5  178   39    62   32    0 1321 1317  921   65 1786    0
1450     10◆   13    0    5  204   39    64   32    0 1339 1321  950   66 1132    0
1455     12◆   14    0    4  194   39    65   32    0 1400 1314  921   65 1119    0
1500     10◆   14    0    3  120   38    64   33    0 1339 1324  909   66 7114    0
1505     10◆   13    0    2  132   38    62   32    0 1373 1343  921   65  771    0
1510     11◆   13    0    0  344   38    64   32    0 1329◆1336  931   65  710    0
1515     12◆   14    0    3  160   38    66   33    0 1334 1317  909   65  917    0
1520     13◆   15    0    5  178   38    63   32    0 1321 1309  914   65 1232    0
```

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
020 1620 01/29/75
TIME     NOX   NO  SO2   WS   WD   RH   TIN TOUT  H2S  THC  CH4   CO   O3   WDV RAIN
         PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF  PPB  PPB  PPB  PPB  PPB  DEG  HDT

1525     11◆   13    0    3  150   38    63   32    0 1343 1324  928   64 1559    0
1530     10◆   16    0    5  194   38    65   33    0 1324 1309  918   65  688    0
1535     12◆   16    0    5  206   38    65   33    0 1319 1297  909   65  772    0
1540     10◆   16    0    2  149   38    62   32    0 1353 1312  923   64 1877    0
1545     12◆   14    0    4  180   38    64   32    0 1326 1317  933   64  815    0
1550     12◆   13    0    3  184   38    65   32    0 1351 1312  923   64  998    0
1555     10◆   14    0    1   10   38    64   33    0 1563 1370  918   64 3194    0
1600     12◆   14    0    2  263   38    62   32    0 1424 1375  938   64 2627    0
1        11◆   14    0    3  220   39    65   32    0 1453 1346  931   64 1010    0
   0     11◆   14    0    2  196   38    66   33    0 1895 1407  918   64 4377    0
  .5     11◆   14    0    1  209   38    63   32    0 1321◆1409  911   64 8101    0
  20     11◆   13    0    1  274   38    63   32    0 1321◆1341  933   64 2338    0
```

FIG. 4 TRAILER 021 HARDCOPY

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
021 1625 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1525       3     2    12    32    66    19     0   953     0
1530       6     1    17    31    68    21     1  2541     0
1535       2     1   123    32    69    21     0  5546     0
1540       0     6   244    34    67    21     0  4243     0
1545       4     5   277    30    67    22     0   934     0
1550       0     9   235    73    68    22     0   931     0
1555       3     6   270    75    69    22     0   732     0
1600       6     6   278    73    67    21     0   773     0
1605       1     3   237    73    66    22     0  1392     0
1610       3     3   275    71    67    21     0   560     0
1615       5     9   286    70    69    22     0   363     1
1620       2     7   282    69    68    22     0  1432     0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
021 1725 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1625       5     9   283    68    66    21     0   924     0
1630       0    10   230    63    68    21     0   551     0
1635       5     9   281    67    69    21     1   378     0
1640       2     9   281    67    69    20     0   503     0
1645       0     7   236    67    66    20     0   344     0
1650       2     5   305    67    67    19     0   646     0
1655       4     6   322    67    68    19     0   334     0
1700       3     9   333    67    69    19     0   262     0
1705       5     9   329    67    67    19     1   276     0
1710       0     7   332    68    67    18     0   732     0
1715       4     6   333    67    68    17     0   503     0
1720       1     6   343    67    69    17     0   601     0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

FIG. 4

```
021 1825 01/23/75
TIME     SO2  WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1725       2    6   332    67    67    17     0   620     0
1730       2    5   342    67    66    16     0   714     0
1735       2    4     2    68    67    14     0   205     0
1740       2    3   340    70    69    12     0   603     0
1745       3    2   354    71    68    11     0   937     0
1750       3    2    84    72    66     9     0   777     0
1755       3    1    73    74    67    10     0   426     0
1800       2    2   136    75    68     9     0  3478     0
1805       3    2   132    77    68     7     0   753     0
1810       2    3   141    79    67     6     0  1033     0
1815       2    3   145    80    66     4     0   926     0
1820       3    4   132    82    67     1     0  1033     0
```

◆

```
021 1925 01/23/75
TIME     SO2  WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1825       5    7   143    82   68-     2     0   292     0
1830       2    8   142    82   69-     4     0   625     0
1835       3    8   128    81   68-     2     0   936     0
1840       4    7   146    82   67-     3     0  1128     0
1845       4    7   160    82   68-     3     0   294     0
1850       3    7   152    82   70-     2     0   976     0
1855       3    7   144    82   69-     4     0   860     0
1900       3    6   145    83   68-     5     0   541     0
1905       2    7   143    82   67-     7     0   424     0
1910       4    8   144    82   69-     8     0   499     0
1915       2    9   148    82   70-    10     0   575     0
1920       3    7   153    82   69-    10     0   991     0
```

◆

```
021 2025 01/23/75
TIME     SO2  WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1925       3    6   160    82   67-     9     0   955     0
1930       3    7   150    82   68-    10     0   455     0
1935       4    8   160    82   69-    12     0   675     0
1940       4    8   157    81   70-    11     0   733     0
1945       3    7   141    82   71-    11     0   230     0
1950       3    6   152    82   71-    11     0   598     0
1955       3    6   152    82   69-    10     0   991     0
2000       2    7   152    82   68-    12     0  1074     0
2005       4    9   151    81   68-    14     0  1203     0
2010       1    3   140    83   69-    12     0   648     0
2015       2    5   132    82   70-    12     0  1351     0
2020       3    5   178    82   71-    13     0  1462     0
```

◆

```
021 2125 01/28/75          FIG. 4
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV RAIN
          PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG  HDT

2025        4    5   162    31   71-    13     0   436    0
2030        0    6   211    34   71-    14     0   463    0
2035        3    5   193    32   70-    13     0  1243    0
2040        3    4   133    31   68-    13     0   593    0
2045        1    5   175    32   68-    12     0  1334    0
2050        3    4   134    32   69-    12     0   635.   0
2055        0    4   200    33   71-    11     0   362    0
2100        0    3   135    33   71-    12     0   324    0
2105        5    3    53    32   70-    12     0  6371    0
2110        3    4   157    32   69-    12     0   742    0
2115        3    4   163    31   67-    12     0   392    0
2120        3   ·1   155    32   68-    14     0  1852    0
```

```
♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
021 2225 01/28/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV RAIN
          PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG  HDT

2125        0    3   190    33   70-    14     0   426    0
2130        2    4   175    32   70-    13     0   675    0
2135        2    4   162    31   71-    12     0  1042    0
2140        1    3   163    33   71-    11     0  1547    0
2145        3    3   172    31   71-    12     0  1765    0
2150        4    3   134    32   71-    13     0   315    0
2155        1    3   168    32   72-    13     0   531    0
2200        0    3   183    32   72-    13     0   433    0
2205        5    3   205    79   70-    12     2  1540    0
2210        3    3   203    31   67-    14     0   441    0
2215        4    2   170    73   69-    12     4  ·331    0
2220        1    3   207    32   70-    14     0   676    0
```

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♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
021 2325 01/28/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV RAIN
          PPB  MPH   DEG   PCT   DGF   DGF   PPB   DEG  HDT

2225        1    4   216    32   70-    14     0   710    0
2230        0    1   151    32   71-    13     0  1045    0
2235        6    0    39    33   71-    13     0   356    0
2240        1    1   161    32   71-    13     0   332    0
2245        5    1   224    32   71-    16     0  2685    0
2250        2    2   235    33   71-    17     0   390    0
2255        4    2   215    31   71-    17     0   465    0
2300        3    1    72    32   72-    16     0  2559    0
2305        3    1    24    31   70-    17     0   439    0
2310        0    1    37    32   68-    19     0  1469    0
2315        6    0    56    33   68-    21     0  1553    0
2320        1    0   251    32   70-    20     0   626    0
```

```
                          DAILY SUMMARY FOR TRAILER 021   01/23/75              FIG 4

INSTANTANEOUS MAXIMUM VALUES
 SO2         30     TIME 0939
 WS          29     TIME 0855
 H2S         25     TIME 0939


MAXIMUM FIVE MINUTE AVERAGES
 SO2          6     TIME 1530
 WS          23     TIME 0855
 WD         357     TIME 1000
 RH          84     TIME 1540
 TIN         71     TIME 2155
TOUT         33     TIME 0625
 H2S          5     TIME 0250


 30 MINUTE AVERAGES

 TIME     SO2   WS    H2S
          PPB   MPH   PPB
 0000       0     7     0
 0030       0     5     0
 0100       1     3     0
 0130       0     5     0
 0200       0     7     0
 0230       0     4     0
 0300       0     1     0
 0330       0     2     0
 0400       0     3     0
 0430       0     5     0
 0500       0     5     0
 0530       0     5     0
 0600       0     7     0
 0630       0    13     0
 0700       0    13     0
 0730       0    10     0
 0800       0    11     0
 0830       0     3     0
 0900     CAL    15   CAL
 0930       1    10     0
 1000       2     3     0
 1030       3     1     0
 1100       3     2     0
 1130       3     4     0
 1200       2    12     0
 1230       2     7     0
 1300       1     1     0
 1330       2     6     0
 1400       2     9     0
 1430       3    13     0
 1500       2     4     0
 1530       2     4     0
 1600       3     7     0
 1630       2     7     0
 1700       2     5     0
 1730       2     2     0
 1800       2     3     0
 1830       3     7     0
 1900       2     6     0
 1930       3     6     0
 2000       2     5     0
 2030       1     4     0
 2100       2     3     0
 2130       2     3     0
 2200       2     2     0
 2230       3     1     0
 2300       2     0     0
 2330       3     1     0


 DAILY AVERAGES
  SO2          1
  WS           6
  WD         236
  RH          80
  TIN         63
 TOUT         14
  H2S          0

 RAIN          5

 LAST CAL
  SO2 0910  01/23      INPUT PPB:    117
       LAST ZERO:        0      NEW ZERO: -    2  LAST SPAN:    117   NEW SPAN:   113
  H2S 0911  01/23      INPUT PPB:    117
       LAST ZERO:        0      NEW ZERO:      1  LAST SPAN:    117   NEW SPAN:   112
```

FIG. 4

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021  0025 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

2325        4     1   130    31    70-   20     0  7437     0
2330        2     1    32    32    71-   21     0   160     0
2335        4     1    44    30    71-   23     0   547     0
2340        4     2    42    31    71-   24     0   293     0
2345        3     1    26    31    72-   24     0   173     0
2350        1     2     6    32    71-   25     0   284     0
2355        1     1    28    32    70-   25     0   303     0
0000        4     1    11    32    68-   25     0   262     0
0005        3     3    17    31    68-   26     0   106     0
0010        2     3    14    32    69-   26     0   172     0
0015        3     3     3    32    70-   26     0   138     0
0020        2     3    25    32    70-   25     0   192     0
```

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021  0125 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

0025        3     2   332    32    70-   25     0  3523     0
0030        4     3    13    30    70-   25     0   161     0
0035        5     4    17    31    71-   26     0   335     0
0040        4     4    10    30    71-   28     0   302     0
0045        3     5     2    32    71-   31     0   214     0
0050        4     4   310    32    71-   30     0   316     0
0055        4     4   337    32    71-   30     0   904     0
0100        4     6   314    30    71-   29     1   333     0
0105        5     6   334    32    70-   31     0   299     0
0110        3     5     1    32    68-   31     0   247     0
0115        4     4    15    31    69-   30     0   106     0
0120        4     3     7    32    70-   29     0   243     0

5

021  0203 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

0205        6     2    26    33    69-   24     0   923     0
```

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```

FIG. 4

```
021 0225 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0125      4     2   357    30   70-   23     0   293    0
0130      1     3    10    32   71-   23     0   133    0
0135      3     4     9    32   71-   27     0    33    0
0140      3     3     0    31   71-   25     0    33    0
0145      2     3   357    32   71-   24     0   173    0
0150      3     3    10    32   71-   25     0   237    0
0155      5     3   354    31   71-   25     0   245    0
0200      5     1    12    31   70-   24     0  1573    0
0205      6     2    26    33   69-   24     0   323    0
0210      0     3     6    33   70-   24     0    70    0
0215      4     4     4    32   70-   23     0    70    0
0320      1     4     8    31   71-   23     0    90    0

5

021 0225 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0220      1     4     8    31   71-   23     0    90    0

Y

LAST CAL
 SO2 0910  01/23      INPUT PPB:   117
     LAST ZERO:      0     NEW ZERO: -   2  LAST SPAN:    117   NEW SPAN:   113
 H2S 0911  01/23      INPUT PPB:   117
     LAST ZERO:      0     NEW ZERO:     1  LAST SPAN:    117   NEW SPAN:   112


M
MAN CAL SYSTEM = 2

CAL  SO2 0301 01/29/75

R

021 0302 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0302    106     0   109


R

021 0305 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0305    116     0   109

R

021 0306 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0306    122     0   109
```

```
021 0325 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0225      6     3    12    30   69-   24     2   160    0
0230      4     2   343    32   69-   24     0   407    0
0235      2     4   322    32   69-   25     0   226    0
0240      5     5   330    33   69-   26     0   163    0
0245      1     4   343    33   69-   26     0   121    0
0250      5     3   341    31   69-   26     0   123    0
0255      3     3   321    32   69-   26     0   163    0
0300    CAL     4   315    31   69-   26     0   450    0
0305    CAL     3   332    32   69-   26     0   314    0
0310    CAL     0   339    33   69-   25     0   427    0
0315    CAL     2     7    32   69-   26     0   204    0
0320    CAL     2   355    32   68-   26     0   104    0
```

FIG. 4

```
021 0332 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0332 -   21     0  109


R

021 0335 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0335     94     0  109

R

021 0335 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0335    122     0  109

R

021 0336 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0336    123     0  109

R

021 0336 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0336    125     0  109

R

021 0337 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0337     98     0  109

R

021 0338 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0338    111     0  109


END - 0338

&
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```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
021 0425 01/29/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

0325    CAL     1   339    32   68-   26      0   631     0
0330    CAL     2   331    31   70-   26      0   134     0
0335    CAL     1   307    30   70-   25      1   309     0
0340    CAL     2   299    32   68-   27      0   233     0
0345    CAL     1   301    30   68-   26      2   463     0
0350    CAL     2   329    30   60-   25      2   242     0
0355    CAL     3   340    33   47-   25      0    38     0
0400    CAL     2     0    33   42-   25      0    45     0
0405      2     2   333    34   49-   24      0   221     0
0410      4     1   334    34   50-   24      0  1068     0
0415      4     0    46    33   54-   23      0  1311     0
0420      5     1    95    32   55-   23      0   387     0
```

FIG. 4

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021 0525 01/29/75
TIME     SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
         PPB  MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0425       5    1    30    33   65-   23     0   645    0
0430       3    1   145    33   66-   23     0  2059    0
0435       3    1   136    34   66-   23     0  1058    0
0440       7    1   132    31   65-   23     0   223    0
0445       2    1   153    33   67-   23     0   437    0
0450       6    2   144    34   66-   23     0   319    0
0455       2    2   136    32   67-   23     0   416    0
0500       5    2   123    33   67-   23     0   315    0
0505       3    1   231    33   66-   24     0  1233    0
0510       6    2   350    32   66-   23     0   536    0
0515       6    2   331    31   67-   23     0   332    0
0520       4    2   320    33   67-   24     0  1045    0
```

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021 0625 01/29/75
TIME     SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
         PPB  MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0525       4    2   340    31   67-   25     0   533    0
0530       6    2   339    33   67-   25     0   336    0
0535       3    3   343    33   68-   25     0   331    0
0540       4    3   350    32   68-   26     0   237    0
0545       3    3   339    32   68-   26     0   241    0
0550       0    2   334    33   68-   26     0   792    0
0555       5    1   322    33   68-   26     0   652    0
0600       7    3   346    30   68-   26     1    46    0
0605       4    2   344    33   67-   26     0   537    0
0610       2    1   334    33   67-   26     0   197    0
0615       4    0    23    32   68-   26     0  2998    0
0620       5    1    70    32   68-   26     0  1270    0
```

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021 0725 01/29/75
TIME     SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
         PPB  MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0625       3    1    60    33   68-   27     0  1059    0
0630       6    1   104    33   67-   28     0  2755    0
0635       6    1   128    34   68-   27     0  1144    0
0640       4    1   123    32   68-   27     0   906    0
0645       5    1   122    33   68-   27     0   673    0
0650       4    0    30    33   68-   28     0   244    0
0655       5    0   334    32   68-   28     0  2536    0
0700       5    1   128    33   68-   28     0   254    0
0705       5    0   140    33   67-   28     0   267    0
0710       4    1   144    32   67-   27     0   295    0
0715       5    0   132    32   68-   27     0   294    0
0720       4    0   132    33   68-   27     0   215    0
```

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FIG. 4

```
021 0825 01/29/75
TIME     SO2   WS    WD     RH     TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG    PCT    DGF   DGF   PPB   DEG   HDT

0725      4     0    126    93     68-   27     0   457     0
0730      4     0    113    82     68-   27     0   376     0
0735      5     0    120    93     68-   27     0   337     0
0740      2     1    145    82     68-   27     0   465     0
0745      5     2    154    83     68-   27     0   165     0
0750      4     1    150    82     68-   26     0   597     0
0755      4     1    143    81     68-   25     0   250     0
0800      6     1    123    83     68-   25     0   457     0
0805      1     1    150    84     67-   25     0   372     0
0810      3     1    162    84     68-   24     0   930     0
0815      3     0    117    83     68-   23     0  3037     0
0820      4     1      4    83     68-   23     0  2350     0
```

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021 0925 01/29/75
TIME     SO2   WS    WD     RH     TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG    PCT    DGF   DGF   PPB   DEG   HDT

0825      4     0     21    82     68-   21     0   610     0
0830      5     1     18    84     68-   20     0   420     0
0835      4     1    354    83     68-   18     0   383     0
0840      4     1    344    81     69-   17     0   679     0
0845      8     2    321    83     68-   18     0   756     0
0850      7     1    318    83     68-   17     0   872     0
0855      5     1    313    83     68-   17     0   517     0
0900      2     2    344    83     69-   16     0   517     0
0905      9     2    334    80     67-   16     3   461     0
0910      4     2    342    84     68-   16     0   147     0
0915      3     3    343    83     69-   15     0    49     0
0920      8     4    335    83     69-   14     0   315     0
```

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021 1025 01/29/75
TIME     SO2   WS    WD     RH     TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG    PCT    DGF   DGF   PPB   DEG   HDT

0925      5     3    339    82     69-   13     0   534     0
0930      4     2    354    83     70-   13     0   176     0
0935      5     2    336    83     69-   12     0   718     0
0940      1     2      0    84     70-   10     0   229     0
0945      5     1    325    81     70-    8     0   555     0
0950      3     2    338    82     70-    8     0   634     0
0955      5     3    339    81     70-    7     0   363     0
1000      1     3    331    82     68-    7     0   533     0
1005      7     3    327    82     68-    6     0   556     0
1010      3     1    323    82     69-    4     0  1113     0
1015      4     1    345    82     70-    3    .0  1533     0
1020      2     2    331    81     68-    2     0   344     0
```

FIG. 4

```
021 1125 01/29/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG  HDT

1025      2     3   353    32   63-     2     0   614    0
1030      0     2   314    35   69-     2     0   469    0
1035      3     3   323    33   63-     1     0   730    0
1040      3     3   336    32   67      0     0   242    0
1045      3     2   329    32   69      1     0   517    0
1050      1     2   332    31   70      2     0   313    0
1055      4     1   332    31   70      5     0   493    0
1100      1     1    66    32   67      6     0  3572    0
1105      4     1   267    30   67      6     0  2103    0
1110      4     1   137    30   69      7     0  7863    0
1115      2     2   133    30   63      3     0   722    0
1120      3     1   143    79   65     11     1  2037    0


D
1214 01/29/75
5

021 1214 01/29/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG  HDT

1210      6     9   162    50   67     30     0   936    2

Y

LAST CAL
 SO2 0301  01/29     INPUT PPB:   117
     LAST ZERO:      0     NEW ZERO: -    2  LAST SPAN:    117   NEW SPAN:   113
 H2S 0911  01/28     INPUT PPB:   117
     LAST ZERO:      0     NEW ZERO:      1  LAST SPAN:    117   NEW SPAN:   112

L
UNIT 0 REC 029
UNIT 1 REC 029
UNIT 2 REC 000


M
MAN CAL SYSTEM = 2

CAL  SO2 1217 01/29/75

M
MAN CAL SYSTEM = 5

CAL  H2S 1217 01/29/75

R

021 1217 01/29/75
TIME    SO2   WS   H2S
        PPB   MPH  PPB

1217 -    3    0-    3


R

021 1222 01/29/75
TIME    SO2   WS   H2S
        PPB   MPH  PPB

1222      4    0     9
```

FIG. 4

```
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   JDV  RAIN
         PPB   MPH   DEG   PCT   DGF  DGF    PPB   DEG  HDT

1125       2     2   139    79    63    13     0  3345     0
1130       4     9   164    75    59    22     0   934     0
1135       3    13   160    70    63    23     5   346     0
1140       2    13   163    67    65    23     0  1111     0
1145       2    12   153    55    69    30     0   301     0
1150       6    13   165    63    69    30     0   907     1
1155       3    11   171    62    70    29     0   257     1
1200       1    11   156    61    66    29     0   639     1
1205       4    12   161    60    66    30     0   731     1
1210       5     9   152    60    67    30     0   936     2
1215     CAL    10   155    59    63    31   CAL   351     1
1220     CAL    12   164    59    53    30   CAL   725     0

R

021 1225 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1225 -    1     0-     1

0
ZERO CHAN = 2
0
ZERO CHAN = 9
Y

LAST CAL
 SO2 1217  01/29      INPUT PPB:    117
     LAST ZERO: -   2      NEW ZERO: -   2  LAST SPAN:    117   NEW SPAN:   113
 H2S 1217  01/29      INPUT PPB:    117
     LAST ZERO:     1      NEW ZERO: -   2  LAST SPAN:    117   NEW SPAN:   112

R

021 1226 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1226     133     0   125

R

021 1227 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1227     163     0   123


R

021 1230 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1230     109     0   119

R

021 1231 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1231     111     0   113

R

021 1232 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1232     114     0   119

R

021 1233 01/29/75
TIME     SO2   WS    H2S
         PPB   MPH   PPB

1233     109     0   113
```

FIG. 4

```
021 1233 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1233    111    0  115

R

021 1234 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1234    117    0  115

1
SPAN CHAN = 2
1
SPAN CHAN = 9

END - 1234
&
H
HI VOL = 1
Y

LAST CAL
 SO2 1217  01/29      INPUT PPB:   117
     LAST ZERO: -   2      NEW ZERO: -   2  LAST SPAN:   118   NEW SPAN:   117
 H2S 1217  01/29      INPUT PPB:   117
     LAST ZERO:     1      NEW ZERO: -   2  LAST SPAN:   112   NEW SPAN:   114




END - 1314





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021 1325 01/29/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  DEG  HDT

1225    CAL   13  155   59   66   31  CAL  216    0
1230    CAL   11  158   58   66   31  CAL  678    0
1235    CAL   13  161   57   67   30  CAL  997    2
1240      0   11  147   57   68   32    3  923    0
1245      0   12  151   58   67   32    1 1037    0
1250      0    8  172   57   65   31    0  413    0
1255      0    8  147   56   66   31    1  303    0
1300      0    9  153   56   69   32    4  809    1
1305      0    7  180   56   68   33    1  926    0
1310      0   10  174   56   65   33    1  894    0
1315      0    7  142   56   67   33    2 1124    1
1320      0    6  147   55   68   33    1  890    0
```

FIG. 4

```
021 1425 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1325       0     7   190    55    63    34     2   322     0
1330       1     9   149    55    65    34     3   923     0
1335       0    11   175    55    66    33     1   429     0
1340       0    10   165    54    63    34     2  1020     0
1345       0     3   160    54    69    34     2  1026     0
1350       0    10   150    54    66    34     2   336     0
1355       0     9   154    54    66    33     2  1567     0
1400       2    10   161    54    67    34     6  1261     2
1405       0    11   169    54    63    33     0  1031     0
1410       0    11   165    54    66    33     2   969     1
1415       2    11   146    53    64    33     2  1144     0
1420       0     3   170    54    66    33     0   953     1
```

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021 1525 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1425       0     5   140    54    63    34     1  1253     0
1430       0     3   123    53    63    33     0   244     0
1435       0     9   125    54    65    33     1  1066     0
1440       0     6   122    54    66    33     0   675     1
1445       0     7   117    54    67    33     4   995     0
1450       0     6   130    54    69    32     0   157     0
1455       0     3   121    54    67    33     1   952     1
1500       0     6   125    54    65    34     2   534     0
1505       0     7   120    54    66    34     2   534     0
1510       0     7   120    54    67    33     2   730     0
1515       0     2    98    54    69    34     3  6694     0
1520       0     3    62    54    66    33     1  1724     1
```

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♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
021 1625 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1525       0     5    92    55    66    33     0   601     0
1530       0     6    92    54    67    33     2   535     0
1535       0     3   318    55    69    33     2   236     0
1540       0     1   278    55    68    34     3  3182     0
1545       0     1   153    55    66    35     2  2551     1
1550       1     3   113    54    67    33     2   623     0
1555       0     2   199    55    69    34     1  4618     0
1600       1     2   246    54    68    34     2  6007     9
1605       0     1   132    55    66    34     1  6410     0
1610       0     3   108    54    67    34     1   722     0
1615       0     2   125    54    68    33     2   326     1
1620       2     1   199    54    68    33     2  2538     1

L
UNIT 0 REC 034
UNIT 1 REC 034
UNIT 2 REC 000
```

FIG. 5 TRAILER 022 HARDCOPY

```
35 01/28/75
TIME     SO2    WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

535        0     6   286    93    61    18     0   243     0
540        0     7   284    92    62    18     0    36     0
545        0     6   294    91    62    19     0   162     0
550        0     5   299    90    60    20     0    96     0
555        0     5   305    88    60    20     0    60     0
600        0     5   302    86    61    20     0   106     0
605        0     4   283    85    61    20     0   216     0
610        0     3   283    85    62    20     0     9     0
615        0     3   265    83    62    21     0    66     0
620        0     7   280    80    60    20     0    42     0
625        0    10   294    76    61    21     0   112     0
630        0     9   293    73    61    20     0   172     0
```

```
735 01/28/75
TIME     SO2    WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

635        0     7   282    74    61    19     0    78     0
640        0     9   283    73    62    18     0   271     0
645        0     8   283    73    61    18     0   108     0
650        0     8   281    73    60    18     0    24     0
655        0     6   283    73    60    17     0   216     0
700        0     5   275    74    61    17     0   149     0
705        0     4   275    75    62    17     0   106     0
710        0     3   274    76    62    16     0   202     0
715        0     1   273    77    60    15     0   150     0
720        0     0   274    79    60    14     0   193     0
725        0     1   254    82    61    12     0  2125     0
730        0     2   146    85    61    11     0    97     0
```

FIG. 5

```
022 2135 01/28/75
TIME     SO2   WS    WD    PH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

2035       0    11   114    89   60-     3     0   108     0
2040       0    11   116    89   60-     4     0    76     0
2045       0    12   121    89   60-     5     0    26     0
2050       0    10   118    88   60-     5     0    20     0
2055       0     7   106    88   60-     5     0   188     0
2100       0    11   129    89   60-     7     0    46     0
2105       0    10   121    89   60-     7     0   146     0
2110       0     9   116    89   60-     8     0   161     0
2115       0    12   123    90   60-     8     0    70     0
2120       0    10   122    90   60-     8     0    33     0
2125       0    11   117    90   60-     7     0    30     0
2130       0    10   116    89   60-     8     0    92     0
```

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022 2235 01/28/75
TIME     SO2   WS    WD    PH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

2135       0     9   120    89   60-     8     0    52     0
2140       0     8   120    90   60-     8     0   135     0
2145       0     8   120    90   60-     8     0   163     0
2150       0    11   123    89   60-     9     0   152     0
2155       0    12   120    90   60-     9     0    54     0
2200       0    11   117    90   60-     9     0    89     0
2205       0    12   124    99   60-     8     0   128     0
2210       0    13   121    89   60-     9     0    12     0
2215       0    11   116    89   60-     9     0    78     0
2220       0    13   118    89   60-    10     0    48     0
2225       0    11   116    90   60-    10     0    25     0
2230       0    12   117    90   59-    10     0    90     0
```

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022 2335 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

2235       0    12   112    90   59-    10     0    74     0
2240       0    12   116    90   59-    10     0    80     0
2245       0    11   123    89   59-    10     0    34     0
2250       0    12   122    89   59-    11     0    42     0
2255       0    15   118    89   59-    12     0    44     0
2300       0    16   120    89   59-    12     0   123     0
2305       0    15   118    90   59-    12     0    94     0
2310       0    13   114    90   59-    13     0    21     0
2315       0    12   108    90   59-    11     0   132     0
2320       0    14   109    89   59-    11     0    36     0
2325       0    15   104    99   59-    11     0   156     0
2330       0    16   106    89   59-    11     0   102     0
```

FIG. 5

```
                              DAILY SUMMARY FOR TRAILER 022    01/28/75

INSTANTANEOUS MAXIMUM VALUES
 SO2        49     TIME 0732
 WS         37     TIME 0918
 H2S        28     TIME 0732


MAXIMUM FIVE MINUTE AVERAGES
 SO2         0     TIME 0005
 WS         21     TIME 0940
 WD        327     TIME 0655
 RH        100     TIME 0130
 TIN        62     TIME 0730
TOUT        35     TIME 0745
 H2S         0     TIME 0010


30 MINUTE AVERAGES

TIME    SO2   WS    H2S
        PPB   MPH   PPB
0000      0     2     0
0030      0     8     0
0100      0     5     0
0130      0     2     0
0200      0     7     0
0230      0    11     0
0300    CAL.    2   CAL
0330      0     9     0
0400      0     5     0
0430      0     8     0
0500      0     6     0
0530      0     9     0
0600      0    12     0
0630    CAL     6   CAL
0700    CAL     2   CAL
0730      0     9     0
0800      0     7     0
0830      0     8     0
0900      0     9     0
0930      0    15     0
1000      0     9     0
1030      0     5     0
1100      0     2     0
1130      0     4     0
1200      0    12     0
1230      0    16     0
1300      0     8     0
1330      0     8     0
1400      0     6     0
1430      0     8     0
1500      0     9     0
1530      0     5     0
1600      0     5     0
1630      0     7     0
1700      0     2     0
1730      0     1     0
1800      0     4     0
1830      0     4     0
1900      0     6     0
1930      0    11     0
2000      0    11     0
2030      0    10     0
2100      0    10     0
2130      0     9     0
2200      0    11     0
2230      0    12     0
2300      0    14     0
2330      0    15     0
```

FIG. 5

```
DAILY AVERAGES
 SO2        0
 WS         8
 WD       193
 RH        93
  TIN      60
TOUT       18
 H2S        0

RAIN     37


LAST CAL
 SO2 0703  01/28      INPUT PPB:   111
     LAST ZERO:      5      NEW ZERO:        0  LAST SPAN:    136   NEW SPAN:   112
 H2S 0703  01/28      INPUT PPB:   111
     LAST ZERO:     15      NEW ZERO:        2  LAST SPAN:    111   NEW SPAN:   111

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022 0035 01/29/75
TIME     SO2   WS   WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH  DEG   PCT   DGF   DGF   PPB   DEG   HDT

2335       0   15   104   89    59-   10     0      5     0
2340       0   15   108   89    59-   10     0     25     0
2345       0   16   110   88    59-   12     0     62     0
2350       0   15   110   89    59-   12     0     10     0
2355       0   15   109   89    59-   11     0    113     0
0000       0   15   109   89    59-   11     0     44     0
0005       0   14   114   89    59-   12     0     34     0
0010       0   15   121   89    59-   14     0    145     0
0015       0   17   118   89    59-   15     0     92     0
0020       0   16   112   89    59-   15     0     15     0
0025       0   15   120   89    59-   13     0    118     0
0030       0   16   121   89    59-   14     0     54     0
```

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022 0135 01/29/75
TIME     SO2   WS   WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH  DEG   PCT   DGF   DGF   PPB   DEG   HDT

0035       0   15   118   89    59-   14     0     97     0
0040       0   15   118   89    58-   14     0    108     0
0045       0   16   123   89    59-   15     0    100     0
0050       0   17   121   90    59-   15     0     28     0
0055       0   16   125   90    58-   15     0     46     0
0100       0   16   121   90    58-   15     0      3     0
0105       0   17   120   90    58-   14     0     88     0
0110       0   17   122   90    58-   14     0     70     0
0115       0   16   124   90    58-   13     0     62     0
0120       0   17   121   89    58-   12     0     74     0
0125       0   18   119   89    58-   13     0    131     0
0130       0   17   116   89    59-   13     0     80     0
```

FIG. 5

```
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0135      0    16   113    89   58-   12     0    94    0
0140      0    17   116    89   59-   11     0   106    0
0145      0    16   116    89   58-   11     0   128    0
0150      0    17   112    88   59-   11     0   113    0
0155      0    17   116    88   58-   12     0    92    0
0200      0    17   123    89   58-   12     0    42    0
0205      0    16   116    88   58-   11     0    22    0
0210      0    15   114    89   58-   12     0   112    0
0215      0    14   116    89   58-   11     0   137    0
0220      0    13   124    89   58-   12     0   120    0
0225      0    14   120    89   58-   12     0    78    0
0230      0    15   116    89   58-   11     0   113    0


START - 0300

XS ZERO   9

XS SPAN   2
XS SPAN   9


END - 0320

LAST CAL
 SO2 0300  01/29       INPUT PPB:    111
     LAST ZERO:       0      NEW ZERO: -   2  LAST SPAN:    112   NEW SPAN:   124
 H2S 0300  01/29       INPUT PPB:    111
     LAST ZERO:       2      NEW ZERO: -   9  LAST SPAN:    111   NEW SPAN:   132




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022 0335 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0235      0    17   122    89   58-   10     0    18    0
0240      0    16   117    88   58-    9     0    61    0
0245      0    15   113    89   58-   10     0   103    0
0250      0    15   116    88   58-   10     0    46    0
0255      0    16   117    88   58-   10     0    17    0
0300    CAL    16   113    88   59-   10   CAL   102    0
0305    CAL    18   120    89   58-   10   CAL    94    0
0310    CAL    16   117    89   58-    9   CAL     7    0
0315    CAL    16   121    88   58-    9   CAL    86    0
0320    CAL    16   117    88   58-    9   CAL    30    0
0325      0    17   118    88   59-    9     0    14    0
0330      0    16   117    88   58-    9     0   134    0


END - 0355




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022 0435 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0335      0    18   120    88   57-    9     0    92    0
0340      0    18   117    88   58-    9     0    17    0
0345      0    17   112    88   57-    9     0    76    0
0350      0    16   110    89   57-    8     0    66    0
0355      0    15   112    89   57-    9     0    85    0
0400      0    14   109    88   57-    8     1    16    0
0405      0    13   112    89   57-    8     0    24    0
0410      0    14   112    89   57-    7     0    28    0
0415      0    15   113    89   57-    6     0   110    0
0420      0    14   112    89   57-    6     0    30    0
0425      0    13   110    89   57-    6     0    22    0
0430      0    14   114    88   57-    6     0   144    0
```

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FIG. 5

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022 0535 01/29/75
TIME    SO2   WS   WD   RH    TIN TOUT   H2S   WDV RAIN
        PPB  MPH  DEG  PCT    DGF  DGF   PPB   DEG  HDT

0435      0   14  116   88    57-    7     0    73    0
0440      0   15  118   88    57-    6     0    13    0
0445      0   15  117   88    57-    6     0     6    0
0450      0   15  117   88    57-    6     0    20    0
0455      0   15  120   88    57-    7     0    73    0
0500      0   15  124   89    57-    7     0    84    0
0505      0   16  128   89    58-    7     0    60    0
0510      0   14  123   89    58-    7     0   112    0
0515      0   15  121   89    57-    8     0    34    0
0520      0   16  124   89    57-    8     0    58    0
0525      0   16  123   89    57-    8     0    28    0
0530      0   15  118   89    57-    9     0    28    0
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022 0635 01/29/75
TIME    SO2   WS   WD   RH    TIN TOUT   H2S   WDV RAIN
        PPB  MPH  DEG  PCT    DGF  DGF   PPB   DEG  HDT

0535      0   15  117   90    57-    9     0   110    0
0540      0   15  125   90    57-    8     0    88    0
0545      0   16  125   90    57-    8     0    11    0
0550      0   15  117   90    57-    9     0    62    0
0555      0   15  118   90    57-    9     0    90    0
0600      0   16  123   90    57-    8     0    52    0
0605      0   15  116   90    57-    8     0    56    0
0610      0   15  112   90    57-   10     0    88    0
0615      0   15  116   90    57-    8     0    12    0
0620      0   15  116   90    57-    8     0    92    0
0625      0   15  112   90    57-    9     0    66    0
0630      0   14  112   90    57-    8     0     8    0
```

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FIG. 5

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022 0735 01/29/75
TIME    SO2   WS   WD    RH   TIN  TOUT  H2S  WDV  RAIN
        PPB  MPH  DEG   PCT   DGF   DGF  PPB  DEG   HDT

0635     0   14   114   90   57-    7    0    15    0
0640     0   15   117   89   57-    6    0    52    0
0645     0   14   117   89   57-    6    0    22    0
0650     0   14   122   89   57-    5    0    98    0
0655     0   13   120   88   57-    5    0   128    0
0700     0   14   118   88   57-    6    0   125    0
0705     0   15   121   88   57-    6    0    89    0
0710     0   14   125   88   57-    6    0     1    0
0715     0   13   124   88   57-    6    0    66    0
0720     0   14   122   88   57-    6    0   112    0
0725     0   13   122   88   57-    6    0    82    0
0730     0   13   120   88   57-    5    0
```

```
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022 0835 01/29/75
TIME    SO2   WS   WD    RH   TIN  TOUT  H2S  WDV  RAIN
        PPB  MPH  DEG   PCT   DGF   DGF  PPB  DEG   HDT

0735     0   14   118   88   57-    5    0    88    0
0740     0   14   120   88   57-    5    0    90    0
0745     0   13   116   88   57-    4    0    24    0
0750     0   13   118   87   57-    3    0    12    0
0755     0   14   118   87   57-    3    0    17    0
0800     0   14   121   87   57-    3    0    11    0
0805     0   13   122   87   57-    3    0    52    0
0810     0   13   123   86   57-    2    0    61    0
0815     0   13   120   86   57-    2    0   120    0
0820     0   13   121   86   57-    2    0   104    0
0825     0   13   113   86   57-    1    0    96    0
0830     0   11   118   86   57-    1    0    28    0
```

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022 0935 01/29/75
TIME    SO2   WS   WD    RH   TIN  TOUT  H2S  WDV  RAIN
        PPB  MPH  DEG   PCT   DGF   DGF  PPB  DEG   HDT

0835     0   10   102   85   57     0    0    80    0
0840     0   10   108   85   57-    1    0    92    0
0845     0   11   110   84   57     0    0    12    0
0850     0   11    92   84   57     0    0    22    0
0855     0   11    92   84   57-    1    0    89    0
0900     0   11   106   85   57     0    0   172    0
0905     0   11   112   85   58     0    0   104    0
0910     0   11   116   85   58     2    0     1    0
0915     0   11   110   84   58     2    0    56    0
0920     0   10    98   84   58     1    0    90    0
0925     0   12    86   85   58     0    0    17    0
0930     0   12   102   85   58     3    0   242    0

&

H
HI VOL = 1
L
UNIT 0 REC 030
UNIT 1 REC 030
UNIT 2 REC 000
```

FIG. 5

```
LAST CAL
 SO2 0300  01/29      INPUT PPB:    111
     LAST ZERO:      0     NEW ZERO: -   2  LAST SPAN:    112   NEW SPAN:    124
 H2S 0300  01/29      INPUT PPB:    111
     LAST ZERO:      2     NEW ZERO: -   9  LAST SPAN:    111   NEW SPAN:    132

M
MAN CAL SYSTEM = 2

CAL  SO2 0953 01/29/75

M
MAN CAL SYSTEM = 5

CAL  H2S 0953 01/29/75


5

022 1000 01/29/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  DEG  HDT

0955    CAL   11  108   84   55    4  CAL   49    0




R

022 1005 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1005 -   3    0-   7


R

022 1008 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1008     1    0    1

0
ZERO CHAN = 2
0
ZERO CHAN = 9
XS ZERO   9
&
R

022 1011 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1011    120    0  121

R

022 1012 01/29/75
TIME    SO2  WS   H2S
        PPB  MPH  PPB

1012    106    0  120

R
```

FIG. 5

```
022 1013 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1013    106     0   117

R

022 1014 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1014    106     0   116

R

022 1015 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1015    104     0   115

R

022 1016 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1016    105     0   111

R

022 1018 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1018    110     0   107

R

022 1019 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1019    109     0   105


R

022 1022 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1022    103     0   113

R

022 1024 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1024    103     0   111

R

022 1024 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1024    106     0   111

R

022 1025 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1025    107     0   115

R

022 1027 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1027    128     0   111
```

FIG. 5

```
R

022 1029 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1029    113     0   110

D
1030 01/29/75
R

022 1030 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

1030    111     0   110

1
SPAN CHAN = 2
XS SPAN    2
1
SPAN CHAN = 9
XS SPAN    9
&

END - 1030
Y

LAST CAL
 SO2 0953  01/29      INPUT PPB:    111
     LAST ZERO: -   2      NEW ZERO:      2  LAST SPAN:    124   NEW SPAN:    111
 H2S 0953  01/29      INPUT PPB:    111
     LAST ZERO: -   9      NEW ZERO:      1  LAST SPAN:    132   NEW SPAN:    110




&
L
UNIT 0 REC 031
UNIT 1 REC 031
UNIT 2 REC 000




◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
022 1035 01/29/75
TIME    SO2   WS    WD    RH    TIN TOUT   H2S   WDV RAIN
        PPB   MPH   DEG   PCT   DGF  DGF   PPB   DEG  HDT

0935      0    11    98    83    58    4     0   292    0
0940      0    11    92    83    58    4     0    96    0
0945      0    11    86    83    59    2     0    30    0
0950      0    12   102    84    56    2     0    22    0
0955    CAL    11   103    84    55    4   CAL    49    0
1000    CAL    10   101    83    56    5   CAL   131    0
1005    CAL    10   102    83    58    6   CAL   112    0
1010    CAL    11   104    82    58    7   CAL    44    0
1015    CAL    10    96    92    59    9   CAL    15    0
1020    CAL    11    89    81    58    8   CAL    78    0
1025    CHL    11    89    81    59    8   CAL     5    0
1030    CHL    10    92    81    60    8   CAL   121    0


END - 1053
```

FIG. 5

```
022 1135 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1035        2     9    88    81    60    10     0    34     0
1040        2     8    96    79    59    11     0    44     0
1045        2     6    89    77    59    14     0   104     0
1050        2     6    89    72    59    19     0   216     0
1055        2     6   100    66    60    23     0    73     0
1100        2     5   106    63    60    24     0   206     0
1105        2     5   106    61    59    26     0   188     0
1110        2     5   110    59    59    26     0   209     0
1115        1     8   116    58    59    27     0   230     0
1120        2    10   113    56    60    28     0   149     0
1125        2    11   110    55    60    28     0   118     0
1130        1    11   112    54    60    28     0    22     0

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022 1235 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1135        1    10   110    53    59    28     0    26     0
1140        1    10   122    53    60    28     0   204     0
1145        1     9   109    53    60    29     0   144     0
1150        1     8   116    52    61    29     0   129     0
1155        1    10   110    52    59    30     0   161     0
1200        1     6   116    52    60    30     0  2460     0
1205        1     9   116    52    60    30     0   145     0
1210        1     7   130    52    61    30     0   288     0
1215        1     9   122    52    60    30     0    92     0
1220        1     6   113    51    59    30     0   390     0
1225        1     6   123    51    59    31     0   496     0
1230        1     9   121    51    60    31     0     2     0
```

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
022 1335 01/29/75
TIME      SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
          PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1235        1     5   131    51    59    31     0   609     0
1240        1     6   132    51    60    31     0   222     0
1245        1     5   126    51    60    31     0   188     0
1250        0     7   126    51    61    31     0    88     0
1255        1     3   130    51    60    31     0   412     0
1300        1     8   140    50    60    32     0  1753     0
1305        1     6   131    50    60    32     0   817     0
1310        1     5   126    50    60    32     0   354     0
1315        1     6   303    50    60    32     0    98     0
1320        1     6   160    50    61    32     0  2490     0
1325        1     7   120    49    61    33     0   761     0
1330        1     3    90    49    60    33     0    25     0
```

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

FIG. 5

```
022 1435 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1335       0     2   122    49    61    33     0  1873     0
1340       0     4    82    49    61    33     0  1577     0
1345       0     7   125    49    60    33     0   276     0
1350       0     7   146    49    60    32     0    60     0
1355       0     7   140    49    61    33     0   685     0
1400       0     6   158    49    61    32     0  1164     0
1405       0     5   148    49    60    33     0   212     0
1410       0     3   126    49    61    33     0   624     0
1415       0     2   130    49    62    34     0  1246     0
1420       0     3   150    49    60    34     0   476     0
1425       0     4   137    49    61    33     0   289     0
1430       0     3   348    49    61    33     0  3019     0
```

```
*****************************************************************
022 1535 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1435       0     4   141    49    60    33     0  1151     0
1440       0     2   116    49    61    34     0  1006     0
1445       1     4   116    49    61    33     0   321     0
1450       1     6   120    49    61    33     0   690     0
1455       0     5   137    49    60    33     0   272     0
1500       0     3   154    49    61    33     0  1756     0
1505       0     2   118    49    62    34     0  1275     0
1510       0     2    97    49    60    34     0  6946     0
1515       0     5   106    49    61    33     0   421     0
1520       0     5   120    49    62    33     0   322     0
1525       0     3   112    49    60    33     0   406     0
1530       0     3   108    49    61    33     0   172     0
```

```
*****************************************************************
022 1635 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   DEG   HDT

1535       0     3   121    49    62    32     0  2403     0
1540       0     1   190    50    61    32     0  2200     0
1545       0     1   113    50    60    32     0   120     0
1550       0     1    88    51    55    32     0   230     0
1555       0     0   166    52    59    32     0    82     0
1600       0     1   168    53    61    32     0   191     0
1605       1     0   142    53    60    32     0   618     0
1610       0     1   108    55    60    31     0   194     0
1615       2     2   116    56    61    30     0   294     0
1620       0     2   108    59    61    29     0   476     0
1625       1     3   120    62    62    27     0   916     0
1630       1     3    96    65    63    28     0   258     0

L
UNIT 0 REC 037
UNIT 1 REC 037
UNIT 2 REC 000
```

FIG. 6 TRAILER 023 HARDCOPY

```
 ?
D
1430 01/28/75



5

023 1432 01/28/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1430      0    0    2    6  236  100   72   18   17    4 1429 1365 1579   50

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

1430     10  247   91   22   12  242  100   13   12  256  100   18   31-  399  779

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1430      0    2-   50   11  232-    4   12  234    6

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1430    423  208  154   98    3    0   92    6   22    2    0


%

5

023 1454 01/28/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1450      0    0    4    6  243  100   73   19   19    6 1434 1385 1600   48

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

1450      9  253   93   22   11  247  100   18   11  265  100   18   32-  399  780

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1450      0    2-   48   10  240-    3   11  244    7

♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦♦
```

FIG. 6

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1450   261  224   60   92    2   18  137    4   85    2    0


END - 1501




◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
023 1523 01/28/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYP   H2S   THC   CH4    CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

1430      0     0     2     6   236   100    72    18    17     4  1429  1365  1578    50
1435      0     0     4     6   228   100    73    18    17     5  1434  1378  1583    49
1440      0     0     6     6   233   100    73    18    16     6  1431  1392  1590    49
1445      0     0     6     7   242   100    72    18    17     6  1431  1392  1590    49
1450      0    -0     4     6   243   100    73    19    18     6  1434  1385  1600    49
1455      0     0     3     5   234   100    73    17    17     5  1426  1385  1595    49
1500      0     0     3     5   233   100    72    17    21     4  1426  1339  1617    48
1505      0     0     3     5   240   100    72    19    17     4  1409  1356  1595    48
1510      0     0    11     5   241   100    72    18    15     9  1393  1368  1555    48
1515      0     0     3     5   286   100    71    18    11     4  1392  1363  1585    47
1520      0     0     4     7   301   100    72    17     9     5  1407  1385  1593    48
1425      0     0     3     7   236   100    72    19    22     4  1426  1363  1575    50

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRE
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

1430     10   247    91    22    12   242   100    18    12   256   100    18   31-   399  779
1435     10   241    92    22    12   240   100    19    12   256   100    19   27-   399  780
1440     10   245    92    22    11   244   100    18    12   259   100    18   30-   399  780
1445     12   252    93    22    13   249   100    19    13   262   100    19   26-   399  780
1450      9   253    93    22    11   247   100    19    11   265   100    18   32-   399  780
1455      9   249    93    21    12   246   100    18    12   259   100    17   28-   399  780
1500      9   246    93    22    11   247   100    18    11   263   100    17   26-   399  780
1505      8   250    93    21    10   245   100    18    10   259   100    17   29-   399  780
1510      9   249    93    21     9   243   100    19    10   258   100    17   29-   399  780
1515      8   288    94    21     8   286   100    18     9   301   100    17   27-   399  780
1520     11   304    96    21    12   303   100    17    12   316   100    17   32-   399  781
1425     10   246    91    22    12   244   100    18    12   260   100    18   30-   399  779

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

FIG. 6

```
*****************************************************************************
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1450   261  224   60   92    2   18  137    4   85    2    0


END - 1501
```

```
*****************************************************************************
023 1523 01/28/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1430      0    0    2    6  236  100   72   18   17    4 1429 1365 1578   50
1435      0    0    4    6  228  100   73   18   17    5 1424 1378 1583   49
1440      0    0    6    6  233  100   73   18   16    6 1431 1392 1590   49
1445      0    0    6    7  242  100   72   18   17    6 1431 1392 1590   49
1450      0   -0    4    6  243  100   73   19   18    6 1434 1385 1600   49
1455      0    0    3    5  234  100   73   17   17    5 1426 1385 1595   48
1500      0    0    3    5  233  100   72   17   21    4 1426 1339 1617   48
1505      0    0    3    5  240  100   72   19   17    4 1409 1356 1595   48
1510      0    0   11    5  241  100   72   18   15    9 1383 1368 1558   48
1515      0    0    3    5  286  100   71   18   11    4 1392 1363 1585   47
1520      0    0    4    7  301  100   72   17    9    5 1407 1385 1593   48
1425      0    0    3    7  236  100   72   19   22    4 1426 1363 1575   50

*****************************************************************************
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 FREQ
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

1430     10  247   91   22   12  242  100   18   12  256  100   18  31-  399  779
1435     10  241   92   22   12  240  100   18   12  256  100   19  27-  399  780
1440     10  245   92   22   11  244  100   18   12  258  100   19  30-  399  780
1445     12  252   93   22   13  249  100   19   13  262  100   18  36-  399  780
1450      9  253   93   22   11  247  100   19   11  265  100   18  32-  399  780
1455      9  249   93   21   12  246  100   18   12  259  100   17  28-  399  780
1500      9  246   93   22   11  247  100   18   11  263  100   17  26-  399  780
1505      8  250   93   21   10  245  100   18   10  259  100   17  29-  399  780
1510      9  249   93   21    9  243  100   18   10  258  100   17  29-  399  780
1515      8  288   94   21    9  286  100   18    9  301  100   17  27-  399  780
1520     11  304   96   21   12  303  100   17   12  316  100   17  32-  399  781
1425     10  246   91   22   12  244  100   18   12  260  100   18  30-  399  779

*****************************************************************************
```

FIG. 6

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1545   490  149  329  273    2    0  224   11   69    6    0

&

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023 1555 01/23/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1555     0    0    2    4  219  100   71   17   24    3 1358•1409 1595   47

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PREC
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

1555     8  234   92   21   10  236  100   18   10  244  100   17  28-  399  791

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1555     0   3-   50    9 224-    1   10  221    8

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1555   442  106  250  204    2    0  240   10   54    5    0
```

start test
16:08

FIG. 6

```
TIME    WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
        MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

1430      0    2-  50    11  232-    4    12  234    6
1435      0    2-  50    12  230-    3    12  234    6
1440      0    3-  50    11  234-    2    12  236    7
1445      0    3-  50    13  240-    4    13  240    6
1450      0    2-  48    10  240-    3    11  244    7
1455      0    2-  50    11  236-    2    12  236    8
1500      0    2-  50    11  236-    3    11  240    8
1505      0    2-  50     9  236-    2    10  236    7
1510      0    3-  50     9  233     0    10  232   11
1515      0    2-  48     9  271     2    10  271   11
1520      0    3-  50    12  288-    2    12  284    8
1425      0    2-  50    11  234-    4    12  236    8

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1430    423  208  154   98    3    0   92    6   22    2    0
1435    361  230  224  138    1    0   72    5  168    1    0
1440    574  465  152   62    1    0  286    5    9    2    0
1445    394  604  144  101    2    0   61    7   36    4    0
1450    261  224   60   92    2   18  137    4   85    2    0
1455     86  220  212  236    1    0  133    6  121    2    0
1500    663  213  290  224    1    0  245    8   68    3    0
1505    551  116  224  156    2    0  212   10   73    5    0
1510    246  338  237  176    2    0  279   11  325    5    0
1515    196  754  527  370    0   18  348   11  293    9    0
1520    342  464  131  168    2    0  194    4  184    4    0
1525     80  539  406  250    1    0  419   13  224    5    0

5

023 1525 01/28/75
TIME     NOX    NO   SO2   WS1   WD1   RH1   TIN TMP1   PYR   H2S   THC   CH4   CO    O3
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   CCM   PPB   PPB   PPB   PPB   PPB .

1525       0    -0     2     4   275   100    71   17    12     4  1400  1380  1595   48

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME     WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRES
         MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

1525       8   278    96    20     9   274   100    17     9   284   100    17   33-  399  781

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TIME     WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
         MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

1525       0    2-  50     8  261    0     9  259    8

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME    WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1525      80  539  406  250    1    0  419   13  224    5    0


5

023 1549 01/28/75
TIME     NOX    NO   SO2   WS1   WD1   RH1   TIN TMP1   PYR   H2S   THC   CH4   CO    O3
         PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   CCM   PPB   PPB   PPB   PPB   PPB

1545       0     0     3     7   234   100    71   16    20     3  1385  1385  1583   47

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TIME     WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRES
         MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

1545      11   247    93    21    13   248   100    18    13   257   100    17   38-  399  781

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TIME     WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
         MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

1545       0    2-  50    12  234-    2    13  232    8

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TIME    WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT
```

Time WS2 HWD5 VWD5 WD5 HWD6 VWD6 WD7 HWD7 VWD7
MPH DEG DEG MPH DEG DEG MPH DEG DEG
1545 0 2 50 12 234- 2 13 232 8

FIG. 6

```
023 1613 01/29/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4    CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

1610      0     0     2     9   252    98    71    16    19     3 1373*1407  1588    47

*******************************************************************************************
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2  PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG   MBR

1610     13   261    86    19    15   261    95    19    17   274    95   19-  399-  359   782

*******************************************************************************************
TIME    WS5 HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH  DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

1610      0   2-    50    13  248-     4    17   248     7

*******************************************************************************************
TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

1610    671    24   133   246     1     0   163    16   198     5     0




*******************************************************************************************
023 1623 01/29/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4    CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

1530      0     0     2     4   286   100    71    17    12     3 1404  1395  1593    47
1535      0     0     2     9   252   100    71    17    13     4 1412  1402  1590    48
1540     0*    11     2     8   240   100    71    18    17     3 1397*1404  1590    47
1545      0     0     3     7   234   100    71    16    20     3 1385  1385  1583    47
1550      0     0     2     7   234   100    71    18    21     3 1385*1412  1590    48
1555      0     0     2     4   219   100    71    17    24     3 1358*1409  1595    47
1600      0     0     1     7   241   100    71    19    35     3 1368*1402  1529    47
1605    CAL   CAL     3     6   254   100    71    19    28     4 1380*1422  1524    47
1610      0     0     2     9   252    98    71    16    19     3 1373*1407  1588    47
1615      0     0     2     8   262    95    70    20    30     3 1356*1412  1607    48
1620      0     0     2     9   260    92    70    22    26     3 1356*1409  1615    49
1525      0     0     2     4   275   100    71    17    12     4 1400  1330  1585    48

*******************************************************************************************
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2  PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG   MBR

1530      7   289    95    20     9   285   100    17    10   294   100    17   32-   399   781
1535     13   263    94    20    15   262   100    18    14   273   100    17   37-   399   781
1540     11   246    93    20    14   244   100    17    16   254   100    17   32-   399   781
1545     11   247    93    21    13   248   100    18    13   257   100    17   32-   399   781
1550     11   245    92    21    12   244   100    18    13   252   100    17   32-   394   781
1555      8   234    92    21    10   236   100    19    10   244   100    17   28-   399   781
1600      9   247    90    21    11   247   100    18    12   254   100    18   25-   399   781
1605      9   260    89    22    12   253   100    19    13   268    99    18   29-   399   781
1610     13   261    86    18    15   261    96    19    17   274    95   19-  399-   359   782
1615     12   268    84    21    13   268    93    20    15   273    91   19-  399-    42   782
1620     13   267    82    21    15   267    89    20    16   290    87   19-  399-    41   782
1525      8   278    96    20     9   274   100    17     9   284   100    17   23-   399   781

*******************************************************************************************
TIME    WS5 HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH  DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

1530      0   2-    50     9   269     0    10   266    12
1535      0   2-    50    14  249-     3    15   248     7
1540      0   2-    50    14  233-     1    16   232     6
1545      0   2-    50    12  234-     2    13   232     8
1550      0   3-    50    12  233-     2    13   232     8
1555      0   3-    50     9  224-     1    10   221     8
1600      0   2-    50    11  233-     2    12   232     3
1605      0   2-    50    11   244     0    13   243    10
1610      0   2-    50    13  248-     4    17   243     7
1615      0   3-    50    13  256-     1    16   254     9
1620      0   3-    50    14  256-     1    17   259     7
1525      0   2-    50     8   251     0     9   259     3

*******************************************************************************************
```

FIG. 6

```
------------------------------------------------------------------------------------------
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1530    645  989  746  596    1    0  573   28  560   16    0
1535    290  164  365  445    2    0  210   15  602    7    0
1540    390  164  169  262    2    0  260   11  303    3    0
1545    490  149  329  273    2    0  224   11   69    6    0
1550    352  390  237   50    0    0  122    8   12    2    0
1555    442  106  250  204    2    0  240   10   54    5    0
1600     42  597  158  226    0    0  112   11   28    4    0
1605    741   18  424  261    2    0  342   18  288    5    0
1610    671   24  133  246    1    0  163   16  198    5    0
1615     24  278   92  135    2    0  131   13  108    5    0
1620    404  178  103  145    0    0   77   14   28    5    0
1625    630   26  133  198    2    0  260   14  208    7    0


%

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023 1636 01/28/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1635      0•   12    2    7  257   89   70   20   17    4 1351•1400 1590   47

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME     WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

1635      11  264   79   21   14  262   86   19   15  275   84   19- 399-  37  782

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME     WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1635       0   1-   50   13 248-    3   15  251    7

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME    WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1635      58 563- 208  224    2    0  193   10   82    4    0


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023 1644 01/28/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1640      0•   21    3    8  251   87   70   20   15    4 1346•1397 1597   47

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME     WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

1640      13  261   78   20   14  261   84   19   15  273   83   18- 399-  32  782

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME     WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1640       0   2-   50   13  247    0   15  247    9

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME    WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1640     442  408  120  216    0    0  202   10  244    3    0




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023 1707 01/28/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1705       0    0    2    4  271   97   70   19    5    5 1363•1395 1523   46
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
```

```
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG MB

1705      8  274   77   19   10  271   83   17   11  282   82  17-  399   14 782

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1705      0   1-   50    9 257-    1   12  259    7

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1705    438  428  140  196    2    0  120    6   50    2    0

&

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023 1714 01/23/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1710      1    0    2    4  265   88   71   18    3    5 1363+1375 1585   47

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG MB

1710      9  270   78   19   10  268   84   17   11  278   82  17-  399    8 782

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1710      0   1-   50    9 254-    2   12  254    8

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1710     52  362  150  142    1    0  232    8   33    1    0


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023 1719 01/23/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1715      2    0    2    4  265   88   70   18    1    3 1351 1331 1585   45

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG MB

1715      8  268   78   19    9  267   85   17   10  280   83  17-  399    0 782

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1715      0   1-   50    8 251-    1   12  256    7

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1715    466   60  194  142    0    0  196   10  261    2    0

&
```

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023 1723 01/23/75
```

FIG. 6

```
023 1723 01/28/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1630     0•    2    3    6  261   89   70   20   19    5 1348•1414 1617   47
1635     0•   12    2    7  257   89   70   20   17    4 1351•1400 1590   47
1640     0•   21    3    8  251   87   70   20   15    4 1346•1397 1597   47
1645     0     0    3    9  254   86   70   20   13    4 1351•1407 1607   46
1650    CAL  CAL    3    5  267   86   70   19   11    4 1353•1400 1583   47
1655    CAL  CAL    3    4  260   86   71   18    8    4 1356•1395 1590   47
1700     0     0    3    4  268   86   70   17    7    4 1351•1395 1585   47
1705     0     0    2    4  271   87   70   18    5    5 1363•1395 1573   46
1710     1     0    2    4  265   98   71   19    3    5 1363•1375 1585   47
1715     2     0    2    4  265   88   70   13    1    3 1351 1331 1585   45
1720     1     0    2    4  260   89   70   15    1    2 1351 1331 1593   46
1625     0•    9    4    7  261   90   70   21   22    5 1348•1397 1627   47

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MIB

1630     11  268   80   21   12  268   86   19   13  279   85  19- 399-   27  782
1635     11  264   79   21   14  262   86   19   15  275   94  19- 399-   27  782
1640     13  261   78   20   14  261   84   19   15  273   93  18- 399-   32  782
1645     13  261   78   20   15  260   83   19   16  275   91  18- 399-   25  782
1650     10  271   77   20   10  270   83   19   11  282   81  18- 399-   23  782
1655      9  268   77   20   10  271   83   18   11  281   91  18- 399-   12  782
1700      9  275   77   19   10  273   83   18   11  284   81  17- 399-    1  782
1705      8  274   77   19   10  271   83   17   11  282   82  17- 399    14  782
1710      9  270   78   19   10  268   84   17   11  278   82  17- 399     9  782
1715      8  268   78   19    9  267   85   17   10  280   83  17- 399     0  782
1720      8  267   79   18    9  267   86   17   11  290   94  17- 399     6  782
1625     12  267   81   21   14  268   88   19   15  282   86  19- 399-   37  792

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1630      0   2-   50   12  253    0   14  254    9
1635      0   1-   50   13  248-   3   15  251    7
1640      0   2-   50   13  247    0   15  247    9
1645      0   2-   50   14  246-   2   16  251    8
1650      0   1-   50   10  254    0   12  258    9
1655      0   1-   50   10  257-   1   12  260    8
1700      0   1-   50   10  260-   2   12  263    8
1705      0   1-   50    9  257-   1   12  259    7
1710      0   1-   50    9  254-   2   12  254    8
1715      0   1-   50    8  251-   1   12  256    7
1720      0   1-   50    9  253-   2   12  259    7
1625      0   2-   50   13  256    0   16  258   10

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1630    355  181  257  216    1    0  174   13  180    3    0
1635     58  563  208  224    2    0  193   10   82    4    0
1640    442  408  120  215    0    0  202   10  244    3    0
1645    392  337  180  104    1    0   80    9  226    2    0
1650    329  156  208  163    1    0  126   12  121    3    0
1655     74  376  218   49    2    0  267   10   95    3    0
1700     52  442  110  158    1    0  108    7  208    0    0
1705    438  428  140  196    2    0  120    6   50    2    0
1710     52  362  150  142    1    0  232    8   33    1    0
1715    466   60  134  142    0    0  196   10  261    2    0
1720    700  592   28   69    1    0  194    7  197    3    0
1725    302  643  137   77    1    0  198    6  178    2    0


END - 1743
```

```
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023 1823 01/28/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
```

FIG. 6

```
023 1923 01/28/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1730    3*    5    0    4  257   90   70   16    0    1 1339 1334 1600   45
1735    3*   13    1    4  257   90   70   17    0    2 1351 1343 1593   45
1740    1*    9    0    4  248   91   70   16    0    2 1351 1348 1600   45
1745    0*   24    0    2  224   92   70   15    0    2 1346 1341 1595   44
1750    2*   25    0    2  244   93   70   15    0    2 1356 1341 1580   45
1755    1*   19    0    2  237   92   70   15    0    2 1361 1339 1583   45
1800    3     0    0    3  240   91   70   14    0    2 1346 1331 1585   46
1805    0*   16    0    2  237   90   70   13    0    2 1343 1326 1571   45
1810    0*   16    0    2  213   91   70   13    0    3 1363 1339 1571   46
1815    0*   20    0    2  189   91   70   12    0    3 1358 1329 1571   46
1820    0*    8    0    2  198   91   70   12    0    2 1353 1309 1556   46
1725    3*    7    0    3  261   89   70   17    0    2 1339 1339 1595   45

****************************************************************************
TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MB

1730     8  264   79   18    9  265   86   16   11  278   84  17-  399   57  783
1735     8  263   80   18   10  264   86   17   12  277   84  17-  399   80  783
1740     8  260   80   18    9  264   86   17   11  278   84  17-  399   95  783
1745     5  241   81   17    7  253   87   16   10  268   84  16-  399  138  783
1750     5  253   81   17    8  262   87   16   11  273   84  16-  399  150  783
1755     5  247   81   16    9  250   85   15   11  268   83  16-  399  182  782
1800     6  248   79   16   10  254   83   15   12  272   81  16-  399  216  783
1805     6  254   79   15   11  259   82   15   11  275   80  16-  399  246  783
1810     5  240   79   15   10  256   81   15   13  272   79  16-  399  312  783
1815     6  209   79   14    9  228   81   14   11  251   78  15-  399  254  783
1820     7  214   79   15   11  229   80   15   13  249   78  15-  399  210  784
1725     7  267   79   18    9  269   86   16   10  280   84  17-  399   33  782

****************************************************************************
TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1730     0   1-   50    8 250-    2   13  256    6
1735     0   1-   50    8 249-    2   13  254    6
1740     0   1-   50    8 248-    1   12  256    7
1745     0   1-   50    7 238-    2   10  245    7
1750     0   1-   50    6 249-    3   10  249    7
1755     0   1-   50    8 238-    3   11  245    7
1800     0   1-   50    9 242-    4   12  249    6
1805     0   1-   50    8 246-    2   11  253    6
1810     0   1-   50    8 242-    2   12  250    6
1815     0   1-   50    8 216-    4   11  230    6
1820     0   2-   50   10 217-    4   13  226    6
1725     0   2-   50    9 256-    3   12  258    6

****************************************************************************
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1730    92  381   98  133    1    0  165    7  124    1    0
1735   290  184   30  110    1    0  188    4   97    0    0
1740    70  108  200  142    1    0   88    4   25    0    0
1745   468  402  165   30    1    0   37    4    2    1    0
1750   172  325  200  166    1    0  165    3  118    1    0
1755   142   49  134  122    1    0  166    2   25    1    0
1800   138  132  112  170    1    0  106    2  124    0    0
1805   190  547  163   39    1    0  154    2  160    0    0
1810   353  909  221   48    2    0  247    2   68    1    0
1815   356   78  202   69    2    0   84    2   94    1    0
1820   396   56  136  100    0    0  303    4  148    2    0
1825   348  333  217  133    0    0  156    3  146    2    0
```

FIG.6

```
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023 1923 01/28/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4    CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

1930     0•    52     1     4   204    91    70    10     0     2  1363  1299  1534    46
1935     1•    26     0     3   210    92    71     9     0     2  1359  1295  1563    46
1940     1•    32     0     3   204    92    70     9     0     2  1356  1297  1561    46
1945     0•    38     1     2   210    92    70    10     0     3  1368  1290  1534    46
1950     0•    42     1     2   216    92    70    10     0     3  1370  1297  1541    47
1955     0•    24     1     2   216    92    71    10     0     3  1363  1293  1563    47
1900     0•    25     1     2   236    91    71    11     0     2  1356  1287  1556    47
1905     0•    12     0     2   242    88    70    12     0     3  1365  1295  1546    47
1910     1•    25     1     0   230    93    70    12     0     4  1378  1307  1551    49
1915     0•    16     1     2    89    88    71    10     0     4  1375  1304  1556    47
1920     0•    25     1     2     2    87    71    12     0     3  1365  1299  1553    47
1925     2•    52     1     3   204    90    70    11     0     3  1363  1309  1539    46

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TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4    DT1   DT2  PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF    HDG   HDG   MBR

1930      9   213    79    13    14   224    78    15    17   240    75   16-    399   449   784
1935      9   218    78    13    14   228    77    15    16   243    74   16-    399   440   784
1940      8   216    78    13    13   229    76    15    16   242    72   16-    399   436   784
1945      7   220    78    13    11   234    75    15    15   246    71   16-    399   441   784
1950      7   226    78    14    11   237    74    15    15   247    69   16-    399   397   784
1955      8   230    77    14    11   240    73    15    15   249    67   16-    399   352   784
1900      6   244    75    15    10   242    72    15    14   252    66   16-    399   309   784
1905      6   247    74    15    11   246    70    15    14   259    63   16-    399   315   784
1910      4   252    74    14     9   252    69    14    13   267    62   16-    399   369   784
1915      4    38    75    13     5   345    72    12     5   308    64   14-    399   256   784
1920      5   355    75    14     5   331    72    13     3   298    65   13-    399   131   784
1925      8   212    78    14    12   226    79    15    15   245    76   15-    399   308   784

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TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

1930      0    1-    50    14  213-     4    16   219     4
1935      0    2-    50    14  216-     4    16   224     5
1940      0    2-    50    13  216-     4    16   222     4
1945      0    1-    50    11  220-     4    14   226     5
1950      0    1-    50    10  222-     4    15   226     4
1955      0    2-    50    11  226-     4    15   228     5
1900      0    1-    50    10  230-     4    14   232     5
1905      0    1-    50    11  236-     4    14   238     5
1910      0    2-    50     9  240-     2    13   244     7
1915      0    1-    50     5  321-     8     5   275     8
1920      0    1-    50     4  308-     9     3   259     6
1925      0    2-    50    12  214-     4    15   224     6

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

1930    302   427   106   192     2     0   272     2   120     0     0
1935    116   295   200   139     1     0    17     1    96     0     0
1940    164   496   138    66     1     0   142     2    54     1     0
1945    422   414   122   124     1     0    82     2    13     0     0
1950     52   228   230   101     2     0    39     2    78     1     0
1955    329   621   184    18     1     0   119     2   181     0     0
1900    370   294   230    37     1     0   224     3    28     0     0
1905    399   436   230    68     1     0   156     2    98     1     0
1910    547   169   353   214     1     0   224     5    44     1     0
1915   2898  6766   438   779     2     0   420    15   299     7     0
1920    142   126   292   946     1     0   199    11   652     1     0
1925    272   250    98   273     1     0    94     9    92     3     0
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FIG. 6

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▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾▾
023 2023 01/28/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1930    0◆   14    1    0   25   87   70   13    0    3 1500 1290 1553   44
1935    0     0    1    0   56   87   71   13    0    3 1485 1290 1563   45
1940    0     0    1    0  112   86   71   13    0    3 1453 1297 1573   45
1945    0     0    1    0  100   86   70   13    0    3 1441 1302 1553   45
1950    0     0    2    0  114   86   70   12    0    3 1453 1299 1553   44
1955    0     0    2    1  176   87   70   10    0    4 1470 1302 1585   45
2000    0     0    2    1  152   87   71   10    0    4 1414 1317 1605   44
2005    0     0    1    1  131   87   71   10    0    3 1404 1309 1585   46
2010    0     0    1    1  161   87   70   10    0    4 1414 1321 1593   46
2015    0     0    1    3  156   86   70    9    0    3 1407 1329 1585   48
2020    0     0    1    4  154   86   71    9    0    4 1395 1321 1585   48
1925    1◆   27    1    1   15   86   70   12    0    3 1402 1309 1553   44

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

1930     3    9   76   14    4  342   74   13    2  312   68  13-  399   91  785
1935     1  340   76   14    3  323   72   13    2  303   68  13-  399  101  785
1940     1  336   75   14    2  337   71   13    2  325   67  14-  399   97  784
1945     2  338   74   15    3  337   70   13    3  322   66  14-  399   91  785
1950     2   22   73   15    3  342   69   14    3  330   65  14-  399  149  785
1955     4  158   74   13    2    0   69   14    1  336   65  14-  399  246  785
2000     4  150   75   13    3   54   70   13    3    4   65  14-  399  284  785
2005     4  112   75   13    3   64   71   12    3   16   65  13-  399  228  785
2010     4  150   75   13    4  125   73   12    2   48   67  13-  399  205  785
2015     6  152   75   12    5  116   73   13    2   92   68  13-  399  237  785
2020     6  150   74   13    6  122   73   13    2  100   68  13-  399  227  785
1925     4    7   75   14    5  353   73   13    4  341   67  13-  399   66  784

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1930     0   1-   50    4 317-    4    2  286   12
1935     0   1-   50    3 301-    4    2  281    9
1940     0   1-   50    2 304-    2    2  286    6
1945     0   1-   50    3 312-    4    3  295    7
1950     0   1-   50    2 314-    1    3  300    6
1955     0   1-   50    1 323-    2    2  306    7
2000     0   1-   50    2   17    0    3  331   10
2005     0   1-   50    3  54-    8    2  356    0
2010     0   1-   50    3 126-    9    1  30-    4
2015     0   1-   50    4 118-    4    2  66-    4
2020     0   1-   50    5 125-    6    2  74-    4
1925     0   1-   50    5 329-    6    5  317    6

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TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1930    37  334   56  462    1    0   48    5  249    5    0
1935   579  204  104  154    1    0   28    2  186    2    0
1940   353  312  170  176    1    0  110    1   54    1    0
1945    70  164   49  118    1    0   49    2    6    1    0
1950   973 1757  106   22    1    0  144    2   99    1    0
1955   633  307  208   36    1    0   52   11  277    0    0
2000   506  409 3254 1433    2    0 3314    9 1147    9    0
2005  3088 1526 2197 2903    1    0 2750   30 3636   11    0
2010   470  724  634  933    1    0  556    9  590    2    0
2015   137  335   58  440    1    0   41    3  450    2    0
2020    85  237  140  261    2    0   34    1   46    2    0
2025   358  131    0  158    1    0   60    2  156    0    0
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FIG. 6

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023 2123 01/28/75
TIME   NOX    NO   NO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4    CO    O3
       PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

2030     0     0     1     3   172    87    70     7     0     4  1392  1334  1597    47
2035     0     0     2     5   160    87    70     7     0     4  1404  1341  1595    43
2040     0     0     2     4   170    86    70     7     0     4  1397  1329  1595    43
2045     0     0     2     2   174    87    71     8     0     4  1390  1331  1605    43
2050     0     0     2     3   198    87    71     7     0     4  1387  1351  1617    43
2055     0     0     2     3   198    89    70     5     0     4  1387  1348  1607    47
2100     0     0     1     3   204    89    70     6     0     3  1395  1334  1593    48
2105     0     0     1     3   212    89    70     6     0     4  1395  1336  1600    48
2110     0     0     1     3   206    90    70     5     0     3  1387  1351  1619    49
2115     0     0     1     3   192    89    70     8     0     4  1380  1353  1612    49
2120     0     0     1     3   198    89    70     8     0     4  1385  1346  1595    43
2025     0     0     1     3   180    86    71     8     0     4  1387  1324  1585    46

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TIME   WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2   PRE
       MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG   MBR

2030     9   166    73    11     8   142    70    13     5   140    67   13-   399   370   785
2035    10   158    73    13     9   138    69    14     5   141    66   13-   399   272   785
2040     9   163    72    13     8   136    68    14     6   141    65   14-   399   394   785
2045     8   163    72    12     7   134    67    14     5   149    64   14-   399   338   785
2050     7   184    72    12     7   152    66    14     5   157    63   14-   399   403   785
2055     8   178    73    11    12   161    66    14     9   166    63   14-   399   500   785
2100     7   192    73    10    11   163    65    14     9   176    62   14-   399   590   785
2105     7   186    72    12    10   173    64    14     9   184    62   14-   399   450   785
2110     7   192    72    13    10   180    65    14    10   188    62   15-   399   358   785
2115     7   188    71    14    10   172    65    15     9   188    62   15-   399   353   785
2120     6   188    72    13    11   170    65    15    10   182    62   15-   399   400   785
2025     7   166    73    13     7   136    71    13     4   135    68   13-   399   236   785

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TIME   WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
       MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

2030     0    1-    50     8  144-     6     5  104-     4
2035     0    1-    50     8  141-     5     6  104-     4
2040     0    1-    50     7  138-     5     6  104-     3
2045     0    1-    50     6  137-     6     5   114     1
2050     0    1-    50     7  152-     4     5   128     3
2055     0    1-    50    11  160-     5     9   157     1
2100     0    1-    50    10  161-     5     9   166     2
2105     0    1-    50     9  170-     6    10   174     2
2110     0    0-    50     9  178-     7    10   176     2
2115     0    1-    50    10  170-     6     9   176     2
2120     0    1-    50    10  169-     6    10   170     2
2025     0    1-    50     6  138-     6     4  100-     5

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TIME  WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
       DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

2030   381   361    80    52     1     0    52     1    54     2     0
2035   554   369   138   128     1     0    25     1   436     2     0
2040    73   209    72   135     1     0    92     1   174     2     0
2045   332    60    42    12     2     0    44     2    74     0     0
2050    65   180    26    61     2     0    14     3   114     0     0
2055   477    50    74    20     2     0   146     2   501     0     0
2100   667   331    73    60     0     0   150     3   387     0     0
2105   275    78    34   174     0     0    62     2   518     0     0
2110   250   454    54   114     1     0   138     1   219     0     0
2115   313   408   126    13     0     0    85     1    46     0     0
2120   221   458    39   135     1     0    26     2   420     0     0
2125    42   396    98   118     2     0   106     2   338     0     0
```

FIG. 6

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*************************************************************************************
023 2223 01/28/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

2130     0    0    1    3  204   89   70    6    0    4 1400 1363 1622   49
2135     0    0    1    3  197   90   71    9    0    4 1392 1343 1634   49
2140     0    0    1    4  194   89   70    8    0    4 1337 1331 1615   48
2145     0    0    1    2  208   90   70    7    0    4 1402 1331 1605   47
2150     0    0    1    2  180   90   70    9    0    4 1404 1343 1622   48
2155     0    0    2    1  184   90   70    9    0    5 1397 1351 1639   48
2200     0    0    2    3  162   89   71    9    0    5 1392 1341 1624   47
2205     0    0    1    1  174   89   70    9    0    4 1397 1329 1666   47
2210     0    0    1    3  182   93   70    9    0    5 1424 1343 1681   47
2215     0    0    2    3  224   90   70    7    0    5 1419 1356 1639   47
2220     0    0    1    1  204   91   70    8    0    5 1400 1351 1646   48
2125     0    0    2    3  204   99   70    8    0    5 1404 1351 1600   48

*************************************************************************************
TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBS

2130     7  182   73   13   10  168   66   15    9  184   63  15-  399  442  785
2135     8  181   73   13   11  168   66   15    9  188   64  15-  399  438  785
2140     9  188   74   12   12  168   67   14   11  184   64  15-  399  464  785
2145     7  180   74   12   11  164   68   14    9  176   65  15-  399  521  785
2150     7  172   75   12    9  160   68   14    7  170   66  15-  399  431  785
2155     7  166   75   12    9  152   69   14    7  173   66  15-  399  493  785
2200     7  158   75   12    7  149   70   14    7  172   67  15-  399  409  785
2205     6  156   75   11    6  148   70   14    6  173   67  14-  399  415  785
2210     6  174   75   12    6  160   70   14    6  180   68  14-  399  412  785
2215     5  213   76   11    7  180   71   14    7  194   69  14-  399  499  785
2220     4  200   76   13    5  184   71   15    5  190   69  14-  399  237  785
2125     7  188   72   13   12  168   66   15   10  182   63  15-  399  451  785

*************************************************************************************
TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

2130     0   1-   50   10 166-    6   10  172    3
2135     0   1-   50   10 166-    6    9  174    3
2140     0   1-   50   12 166-    6   11  173    2
2145     0   1-   50   10 162-    5   10  165    3
2150     0   1-   50    8 158-    6    7  161    3
2155     0   1-   50    8 152-    5    7  162    3
2200     0   1-   50    7 149-    5    7  162    2
2205     0   1-   50    6 148-    6    6  162    2
2210     0   1-   50    6 158-    5    7  168    2
2215     0   1-   50    7 178-    6    7  180    2
2220     0   2-   50    5 181-    5    5  176    3
2125     0   1-   50   11 166-    5   11  170    3

*************************************************************************************
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

2130   500  501   89  178    1    0    2    0  470    0    0
2135   297  268    5  142    1    0  148    1  316    0    0
2140   412  378   28  114    1    0  112    3  402    0    0
2145   243  206  126  113    1    0   88    2  440    0    0
2150   538  393  150    5    2    0  117    2  454    0    0
2155    30  365   12  210    1    0  104    0  482    0    0
2200   108   37    1   80    2    0    7    2  395    0    0
2205   112  288  121  149    1    0   26    2  219    0    0
2210   698  362   38   78    2    0   18    5  291    1    0
2215   338  413  168  134    2    0    1    4  490    1    0
2220   209  234   94   38    1    0   74    5  261    0    0
2225   241  330  146  123    0    0   12    7   60    0    0
```

FIG. 6

```
023 2323 01/28/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S  THC  CH4  CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB  PPB  PPB  PPB   PPB

2230      0     0     1     1   130    91    70     6     0     4 1402 1336 1619   46
2235      0     0     2     2   136    92    70     8     0     5 1419 1353 1634   45
2240      0     0     1     1   204    93    70     7     0     5 1414 1361 1690   45
2245      0     0     2     2   220    94    70     6     0     5 1402 1356 1630   46
2250      0     0     1     2   209    94    70     6     0     4 1397 1346 1627   45
2255      0     0     1     1   223    94    70     8     0     4 1402 1349 1615   45
2300      0     0     2     2   212    93    70     8     0     5 1419 1361 1632   45
2305      0     0     2     2   202    94    70     7     0     5 1419 1368 1644   46
2310      0     0     2     1   219    93    70    10     0     5 1417 1363 1646   47
2315      0    -0     1     2   198    93    70     7     0     5 1409 1351 1632   45
2320      0     0     2     2   204    93    70     8     0     4 1409 1358 1639   45
2225      0     0     2     1   124    91    70    10     0     5 1297 1341 1637   48

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TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

2230      6   157    77    12     7   152    73    14     6   170    70    14-  399   407  785
2235      6   174    77    12     7   173    72    14     6   189    71    14-  399   434  785
2240      4   212    78    10     6   195    73    14     7   200    71    14-  399   541  785
2245      4   206    78    13     5   181    73    13     4   194    72    13-  399   265  785
2250      4   212    78    12     3   178    73    13     3   198    72    13-  399   321  785
2255      1   197    77    13     2   178    74    13     1   213    73    13-  399   155  785
2300      2   238    77    13     2   214    75    13     1   253    73    13-  399   188  785
2305      3   204    78    12     2   184    75    13     1   186    74    13-  399   239  785
2310      2   204    77    14     2   176    75    13     1   116    74    13-  399    96  786
2315      4   216    77    12     3   192    75    13     1   219    74    13-  399   240  786
2320      2   204    77    14     3   200    75    13     3   242    74    13-  399    98  786
2225      4   141    76    13     6   152    72    13     5   174    70    14-  399   350  785

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TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

2230      0    2-    50     7  158-     5     7   161     2
2235      0    2-    50     7  170-     5     6   176     3
2240      0    2-    50     6  182-     5     7   185     3
2245      0    2-    50     4  179-     4     5   180     4
2250      0    2-    50     3  176-     4     4   180     3
2255      0    1-    50     2  172-     6     1   176     2
2300      0    2-    50     1  196-     4     1   185     3
2305      0    2-    50     2  188-     7     1   178     3
2310      0    2-    50     2  176-     6     0   135     3
2315      0    1-    50     2  188-     6     1   178     3
2320      0    1-    50     2  198-     9     3   226     1
2225      0    2-    50     5  154-     3     6   163     3

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TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

2230     79   217    60    10     1     0    69     3    62     0     0
2235    108   370    74    98     1     0   148     1   394     0     0
2240    280   350     3   144     0     0   190     3    94     0     0
2245     49   274    98   241     0     0     0     5   113     1     0
2250    381   871   224     1     1     0   182     4   561     2     0
2255    593   557   358  1249     1     0   267     3   160     0     0
2300    817   534   197  3594     1     0    11     3   440     0     0
2305    342   150   190   137     1     0   137     2   182     0     0
2310    292    88    26  7957     0     0    24     4  2146     0     0
2315    257   237   168  1679     1     0    37     1   493     0     0
2320    444   238   292   297     0     0   249     3   326     0     0
2325    145   349   247   114     1     0    82     7     8     1     0
```

FIG. 6

```
----------------------------------------------------------------------------------------------------

                                   DAILY SUMMARY FOR TRAILER 023   01/29/75

 INSTANTANEOUS MAXIMUM VALUES
  NOX      112    TIME 0515
   NO       97    TIME 1344
  NO2      223    TIME 1439
  SO2      970    TIME 1509
  WS1       41    TIME 0623
  H2S      943    TIME 1509
  THC     3932    TIME 0418
  CH4     1563    TIME 0257
  CO      1758    TIME 2202
  O3        54    TIME 1324
  WS2       46    TIME 0617
  WS3       47    TIME 0617
  WS4       52    TIME 0616
  WS5       12    TIME 0142
  WS6       46    TIME 0617
  WS7       53    TIME 0616


 MAXIMUM FIVE MINUTE AVERAGES
  NOX        6    TIME 0110
   NO       52    TIME 1825
  SO2       10    TIME 1505
  WS1       22    TIME 0620
  WD1      340    TIME 0055
  RH1      100    TIME 0000
  TIN       72    TIME 1335
 TMP1       34    TIME 0205
  PYR       34    TIME 1555
  H2S        8    TIME 1505
  THC     1499    TIME 1925
  CH4     1421    TIME 1600
  CO      1690    TIME 2235
  O3        51    TIME 1405
  WS2       29    TIME 0620
  WD2      354    TIME 1915
  RH2       97    TIME 1215
 TMP2       36    TIME 0205
  WS3       34    TIME 0620
  WD3      352    TIME 1920
  RH3      100    TIME 0000
 TMP3       34    TIME 0200
  WS4       37    TIME 0615
  WD4      340    TIME 1920
  RH4      100    TIME 0000
 TMP4       34    TIME 0205
  DT1      492    TIME 0105
  DT2      599    TIME 2055
 PRES      786    TIME 2345
  WS5        0    TIME 0315
 HWD5        2    TIME 0315
 VWD5   -   48    TIME 1445
  WS6       33    TIME 0620
 HWD6      338    TIME 1920
 VWD6        3    TIME 0035
  WS7       39    TIME 0615
 HWD7      255    TIME 2000
 VWD7       13    TIME 0250
```

FIG. 6

30 MINUTE AVERAGES

TIME	NOX	NO	SO2	WS1	H2S	THC	CH4	CO	O3	WS2	WS3	WS4	WS5	WS6	WS7
	PPB	PPB	PPB	MPH	PPB	PPB	PPB	PPB	PPB	MPH	MPH	MPH	MPH	MPH	MPH
0000	4	0	0	4	1	1362	1331	1531	34	7	9	12	0	8	12
0030	4	0	0	6	1	1372	1338	1536	34	9	12	15	0	11	15
0100	4	0	0	2	1	1392	1350	1543	33	5	6	7	0	5	7
0130	1	0	0	8	1	1355	1323	1536	35	13	16	19	0	15	19
0200	1	0	0	13	1	1343	1309	1524	36	19	22	24	0	21	24
0230	3	0	0	4	1	1375	1345	1533	33	7	10	12	0	9	12
0300	3	0	0	9	1	1348	1321	1529	35	14	18	21	0	17	21
0330	4	0	0	14	1	1338	1314	1529	36	20	23	26	0	22	26
0400	CAL	CAL	CAL	14	CAL	CAL	CAL	CAL	CAL	19	22	25	0	21	25
0430	CAL	CAL	0	17	0	1358	1321	1468	35	23	27	30	0	26	31
0500	CAL	CAL	0	13	0	1335	1335	1343	34	19	21	24	0	21	24
0530	CAL	CAL	0	11	0	1348	1331	1536	34	17	20	22	0	19	22
0600	0	1	0	19	0	1331	1321	1541	36	25	29	32	0	28	33
0630	0	2	0	12	0	1331	1326	1541	37	17	20	22	0	19	22
0700	0	2	0	13	0	1323	1311	1533	38	18	22	25	0	21	25
0730	0	3	0	16	0	1316	1270	1497	39	22	27	30	0	26	30
0800	0	0	0	13	0	1314	1272	1509	39	18	22	24	0	21	23
0830	1	0	1	15	2	1326	1297	1531	40	20	24	28	0	23	27
0900	2	0	1	9	3	1338	1297	1543	39	14	17	18	0	16	18
0930	4	0	3	10	5	1414	1326	1548	41	15	18	19	0	16	18
1000	2	0	3	7	5	1433	1319	1538	42	11	13	13	0	12	14
1030	3	0	2	3	3	1414	1304	1531	42	6	7	7	0	6	7
1100	4	0	1	3	2	1406	1282	1499	41	6	7	6	0	6	7
1130	3	0	1	2	2	1392	1267	1489	42	5	6	6	0	6	7
1200	3	0	3	8	4	1406	1260	1472	42	13	14	14	0	14	15
1230	CAL	CAL	4	8	5	1416	1270	1499	44	13	14	15	0	13	15
1300	CAL	CAL	3	10	4	1421	1301	1519	49	14	16	16	0	15	17
1330	0	13	4	7	5	1424	1323	1531	49	11	12	12	0	11	13
1400	CAL	CAL	2	7	4	1424	1348	1555	50	10	12	12	0	11	12
1430	0	0	4	6	5	1428	1377	1595	48	9	11	11	0	11	11
1500	0	0	4	4	4	1399	1375	1585	47	8	9	9	0	9	10
1530	0	1	2	7	3	1394	1402	1580	47	10	12	13	0	12	13
1600	0	2	2	7	4	1360	1409	1597	47	11	13	14	0	12	15
1630	0	8	2	6	4	1350	1399	1590	46	10	12	13	0	11	13
1700	1	1	1	3	3	1350	1350	1587	45	7	9	10	0	8	11
1730	1	15	0	2	2	1350	1340	1590	44	6	8	11	0	7	11
1800	0	27	0	2	2	1358	1319	1555	45	6	11	13	0	10	13
1830	0	31	0	2	2	1362	1292	1553	46	7	11	15	0	11	14
1900	0	20	0	1	3	1397	1301	1553	46	4	6	7	0	6	6
1930	0	0	1	0	3	1453	1301	1573	44	2	2	2	0	2	2
2000	0	0	1	2	3	1399	1323	1587	46	5	5	2	0	4	2
2030	0	0	1	3	3	1394	1335	1599	47	8	8	6	0	8	6
2100	0	0	1	3	3	1392	1350	1607	48	6	10	9	0	9	9
2130	0	0	1	2	4	1397	1340	1624	47	7	9	8	0	9	8
2200	0	0	1	1	4	1406	1343	1648	47	5	6	5	0	5	6
2230	0	0	1	1	4	1409	1353	1648	45	3	4	3	0	3	3
2300	0	0	1	1	4	1416	1365	1638	45	2	2	2	0	2	2
2330	0	0	2	1	4	1426	1365	1641	45	4	4	4	0	4	4

FIG. 6

```
DAILY AVERAGES
 NOX       1
  NO       3
 SO2       1
 WS1       7
 WD1     215
 RH1      96
 TIN      71
TMP1      20
 PYR       5
 H2S       2
 THC    1377
 CH4    1326
 CO     1551
 O3       42
 WS2      11
 WD2     221
 RH2      86
TMP2      23
 WS3      13
 WD3     219
 RH3      91
TMP3      22
 WS4      14
 WD4     230
 RH4      90
TMP4      22
 DT1   -  85
 DT2   - 191
PRES     778
 WS5       0
HWD5       1
VWD5   -  49
 WS6      13
HWD6     212
VWD6   -   3
 WS7      15
HWD7     212
VWD7       5

RAIN      23
LAST CAL
 NOX 1407  01/28      INPUT PPB:    89
     LAST ZERO:       0      NEW ZERO:      3  LAST SPAN:     86   NEW SPAN:     86
  NO 1407  01/28      INPUT PPB:    89
     LAST ZERO:       0      NEW ZERO:      3  LAST SPAN:     86   NEW SPAN:     90
 SO2 0547  01/28      INPUT PPB:   116
     LAST ZERO:       0      NEW ZERO:      0  LAST SPAN:    119   NEW SPAN:    119
 H2S 0419  01/28      INPUT PPB:   116
     LAST ZERO:       0      NEW ZERO:      0  LAST SPAN:    116   NEW SPAN:    119
 THC 0419  01/28      INPUT PPB:  3400
     LAST ZERO:  1881        NEW ZERO:      0  LAST SPAN:   3400   NEW SPAN:   3415
 CH4 0419  01/28      INPUT PPB:  3400
     LAST ZERO:       0      NEW ZERO:      0  LAST SPAN:     24   NEW SPAN:   3400
  CO 0419  01/28      INPUT PPB:  4499
     LAST ZERO: 13636        NEW ZERO:      0  LAST SPAN:   1248   NEW SPAN:   4499
  O3 0419  01/28      INPUT PPB:   380
     LAST ZERO:       0      NEW ZERO:      2  LAST SPAN:    380   NEW SPAN:    382

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FIG. 6

```
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1   PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF   CCM  PPB  PPB  PPB  PPB  PPB

2330     0    0    1    1  194   94   70    8     0    5 1417 1365 1646   45
2335     0    0    2    1  162   93   70    9     0    4 1412 1356 1639   46
2340     0    0    2    2  137   93   70    9     0    4 1414 1356 1629   45
2345     0    0    2    3  152   93   70   10     0    5 1439 1370 1644   45
2350     0    0    3    2  166   93   70    8     0    6 1436 1380 1654   45
2355     0    0    3    3  152   92   70   10     0    5 1422 1368 1649   45
0000     0    0    2    2  148   91   70   11     0    5 1419 1353 1637   46
0005     0    0    2    2  146   90   70   10     0    4 1417 1353 1622   44
0010     0    0    3    2  131   90   70   12     0    6 1451 1383 1646   45
0015     0    0    3    1  115   90   70   12     0    6 1444 1380 1656   46
0020     0    0    4    2  121   90   70   11     0    7 1439 1375 1659   46
2325     0    0    2    2  198   94   70    8     0    5 1431 1383 1641   45

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3   WS4  WD4  RH4 TMP4   DT1   DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF   MPH  DEG  PCT  DGF   HDG   HDG  MBR

2330     4  200   77   12    4  202   75   13     5  219   74   12-  399   176  786
2335     4  173   77   14    4  188   76   12     4  216   74   12-  399    79  786
2340     4  138   77   12    5  169   76   12     5  202   74   12-  399   190  786
2345     5  145   77   13    5  174   76   13     5  204   74   13-  399   181  786
2350     5  154   77   14    4  152   76   13     4  198   74   13-  399   128  786
2355     5  150   77   14    5  146   76   13     4  198   74   13-  399    76  786
0000     4  142   76   14    4  150   75   13     3  194   73   13-  399    84  786
0005     5  137   76   13    4  124   76   13     2  150   73   12-  399   117  786
0010     4  110   76   14    3   93   76   13     2  117   73   13-  399    93  787
0015     4   88   76   14    3   74   76   13     2   89   73   14-  399   148  786
0020     4  113   77   14    5   73   76   13     3   92   73   14-  399   272  787
2325     3  197   77   14    3  198   75   13     5  221   74   13-  399   106  786

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

2330     0   1-   50    4 197-    5    5  208    4
2335     0   1-   50    4 194-    6    4  206    5
2340     0   1-   50    4 168-    5    5  194    5
2345     0   1-   50    4 172-    3    5  197    4
2350     0   2-   50    4 152-    4    4  193    4
2355     0   2-   50    4 149-    6    4  182    3
0000     0   1-   50    3 152-    5    3  185    3
0005     0   1-   50    3 131-    7    2  146    3
0010     0   2-   50    3 106-    8    2  122    2
0015     0   2-   50    3  84-    7    2   97    1
0020     0   2-   50    4  74-    7    2  100    3
2325     0   1-   50    3 194-    3    5  210    5

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TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

2330   218  544   84  222    1    0    5    6   92    2    0
2335    50  385    9  334    1    0  181    4  170    3    0
2340   669   73   60   90    1    0  120    4  481    2    0
2345   234  267   38  353    2    0   25    5  118    1    0
2350   528  286  102   93    0    0  150    3  338    1    0
2355   293  462   73  307    1    0  106    3  532    0    0
0000   304  433   74  333    1    0  197    3  213    0    0
0005    52  232   42  603    1    0   66    3  633    0    0
0010   397  109   70  855    1    0   56    4  116    0    0
0015   170  157    4  561    1    0  108    5  240    1    0
0020   532  204   92  765    1    0  158    5  591    3    0
0025   152  370   10  522    3    0  125    3   22    1    0


5

023 0050 01/29/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1   PYR. H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF   CCM  PPB  PPB  PPB  PPB  PPB

0050     0    0    4    2  112   90   70   11     0 .  7 1429 1365 1654   46

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3   WS4  WD4  RH4 TMP4   DT1   DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF   MPH  DEG  PCT  DGF   HDG   HDG  MBR

0050     6  110   77   14    7   94   74   13     5   89   72   14-  399   205  [illegible]

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```

FIG. 6

```
TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0050      0   3-   50    6  93-    8    5   92    0

***********************************************************************************
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0050    440  114   34  158    0    0  117    4  303    0    0


5

023 0117 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1 TTIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0115      0    0    2    3  124   89   69   11    0    6 1383 1358 1637   45

***********************************************************************************
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PREC
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MIF

0115      5  128   75   12    6  108   73   12    4  120   71  13-  399  325  786

***********************************************************************************
TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0115      0   1-   50    6 112-    6    4  116    1

***********************************************************************************
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0115    571   17   56  445    2    0   36    4  262    1    0




***********************************************************************************
023 0123 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0030      0    0    3    3  150   89   70   11    0    6 1434 1365 1644   45
0035      0    0    3    2  112   89   70   12    0    6 1448 1383 1654   45
0040      0    0    3    1  109   89   70   10    0    7 1444 1383 1654   46
0045      0    0    4    2  112   90   70    9    0    7 1434 1370 1659   46
0050      0    0    4    2  112   90   70   11    0    7 1429 1365 1654   46
0055      0    0    3    2  116   89   69   10    0    6 1424 1369 1651   45
0100      0    0    3    2  113   89   69   10    0    6 1419 1383 1671   46
0105      0    0    2    2  102   89   69   10    0    5 1395 1373 1673   45
0110      0    0    2    2  120   89   69   10    0    6 1383 1358 1654   46
0115      0    0    2    3  124   89   69   11    0    6 1383 1358 1637   45
0120      0    0    2    2  122   97   69   10    0    4 1397 1358 1634   44
0025      0    0    4    2  131   89   71   11    0    7 1434 1365 1654   47

***********************************************************************************
TIME    WS2  WD2  RH2 TMP2.  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PREC
        MPH  DEG  PCT  DGF   MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MIF

0030      5  142   76   13     6  108   76   12    5   93   73  13-  399  325  787
0035      4  123   77   13     8  106   76   12    6   92   73  13-  399  276  787
0040      5  116   77   12     8   97   76   13    7   94   73  14-  399  317  787
0045      6  118   77   12     7   93   75   13    6   80   73  14-  399  272  787
0050      6  110   77   14     7   94   74   13    5   89   72  14-  399  215  787
0055      5  117   76   13     6   94   74   13    4  101   71  14-  399  335  787
0100      5  113   76   13     7   90   73   13    4  108   71  14-  392  300  787
0105      6  108   75   12     7   90   73   13    3  128   71  14-  399  315  786
0110      5  122   75   12     6  102   73   12    3  118   70  14-  399  316  786
0115      5  128   75   12     6  108   73   12    4  120   71  13-  399  326  786
0120      5  131   75   12     5  118   74   12    4  120   70  13-  399  311  786
0025      4  128   77   13     6   84   76   14    3   99   73  14-  399  334  787
```

FIG.6

```
             MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

     0030      0    2-    50     5  112-     7     6    98     1
     0035      0    2-    50     7  109-     5     6    92     2
     0040      0    2-    50     7  100-     6     7    85     1
     0045      0    2-    50     7   97-     7     7    82     1
     0050      0    3-    50     6   98-     8     5    92     0
     0055      0    2-    50     6   98-     8     4   101     0
     0100      0    2-    50     6   93-     7     4   106     0
     0105      0    2-    50     6   93-     7     3   120     0
     0110      0    1-    50     6  106-     8     3   112     0
     0115      0    1-    50     6  112-     6     4   116     1
     0120      0    1-    50     5  123-     8     4   118     0
     0025      0    2-    50     5   86-     7     3   101     2

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0030    263  124  154  414    1    0    9    4   32    0    0
0035     85   60  138  262    1    0    5    2  404    0    0
0040    178  326    5  410    1    0   17    1  266    0    0
0045    469  193   26  532    1    0   14    2  257    0    0
0050    440  114   34  158    0    0  117    4  303    0    0
0055    369  164   76   94    0    0   50    0  230    0    0
0100    452  168   25  262    0    0   28    3   74    0    0
0105     15  335   54 1910    1    0   78    6  530    2    0
0110    113  245   28  646    2    0   13    2  387    2    0
0115    571   17   56  445    2    0   36    4  262    1    0
0120    739  446  281  687    0    0   16    6   66    3    0
0125    821 1109   98  484    1    0    2    8  384    2    0


&

M
MAN CAL SYSTEM = 0

CAL  NOX 0133 01/29/75

M
MAN CAL SYSTEM = 1

CAL  NO 0133 01/29/75

R

023 0134 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0134     0*    1    0    0    2 1397 1329 1524   38    0    0    0    0    0    0

R

023 0135 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0135     1-    1    0    0    2 1397 1329 1524   38    0    0    0    0    0    0

R

023 0136 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0136      0    0    0    0    2 1397 1329 1524   38    0    0    0    0    0    0

M
MAN CAL SYSTEM = 2

CAL  SO2 0137 01/29/75

M
MAN CAL SYSTEM = 3

CAL  O3  0137 01/29/75

M
MAN CAL SYSTEM = 5

CAL  H2S 0137 01/29/75
```

FIG. 6

```
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0137 -   3-    8    5    0    1 1397 1329 1524   13     0     0     0     0     0     0

R

023 0138 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0138     1-    4    6    0    2 1397 1329 1524   11     0     0     0     0     0     0

R

023 0139 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0139     2-    2    2    0    2 1397 1329 1524    9     0     0     0     0     0     0

R

023 0140 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0140     1     0    2    0    0 1397 1329 1524    8     0     0     0     0     0     0

0
ZERO CHAN = 0
0
ZERO CHAN = 1
0
ZERO CHAN = 2
0
ZERO CHAN = 5
R

023 0142 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0142     2-    1   88    0   88 1397 1329 1524    8     0     0     0     0     0     0

L
UNIT 0 REC 018
UNIT 1 REC 018
UNIT 2 REC 000

R

023 0144 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0144 -   3*-   1  103    0  102 1397 1329 1524-   1     0     0     0     0     0


0
ZERO CHAN = 3
R

023 0145 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0145     1     0  104    0  105 1397 1329 1524  377     0     0     0     0     0     0

R

023 0146 01/29/75
TIME    NOX   NO   SO2  WS1  H2S  THC  CH4  CO    O3    WS2   WS3   WS4   WS5   WS6   WS7
        PPB   PPB  PPB  MPH  PPB  PPB  PPB  PPB   PPB   MPH   MPH   MPH   MPH   MPH   MPH

0146     2     0  102    0  105 1397 1329 1524  392     0     0     0     0     0     0

1
SPAN CHAN = 3

END - 0147
Y

LAST CAL
```

FIG. 6

```
LAST CAL
 NOX 0133  01/29      INPUT PPB:    89
     LAST ZERO:       3      NEW ZERO:      0  LAST SPAN:     86   NEW SPAN:     86
  NO 0133  01/29      INPUT PPB:    89
     LAST ZERO:       3      NEW ZERO:      0  LAST SPAN:     86   NEW SPAN:     90
 SO2 0137  01/29      INPUT PPB:   116
     LAST ZERO:     0        NEW ZERO:      2  LAST SPAN:    119   NEW SPAN:    119
 H2S 0137  01/29      INPUT PPB:   116
     LAST ZERO:     0        NEW ZERO:      0  LAST SPAN:    116   NEW SPAN:    119
 THC 0419  01/28      INPUT PPB:  3400
     LAST ZERO:  1881        NEW ZERO:      0  LAST SPAN:   3400   NEW SPAN:   3415
 CH4 0419  01/28      INPUT PPB:  3400
     LAST ZERO:     0        NEW ZERO:      0  LAST SPAN:     24   NEW SPAN:   3400
  CO 0419  01/28      INPUT PPB:  4499
     LAST ZERO: 13636        NEW ZERO:      0  LAST SPAN:   1248   NEW SPAN:   4499
  O3 0137  01/29      INPUT PPB:   380
     LAST ZERO:     0        NEW ZERO:      2  LAST SPAN:    380   NEW SPAN:    383

&
5

023 0149 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0145    CAL  CAL  CAL    3  123   87   71   10    0  CAL 1356*1368 1607  CAL

*************************************************************
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

0145      6  133   76   12    8  128   73   12    5  154   70   14- 399  373  786

*************************************************************
TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0145      0    1-   50    7  131-    9    5  146    0

*************************************************************
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0145    472  472   52  441    1    0   97    3  117    2    0

&

5

023 0201 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0200      0    0    0    2  136   87   71   11    0    2 1363 1348 1593   31

*************************************************************
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

0200      6  145   75   13    7  157   73   14    5  192   70   14- 399  304  786

*************************************************************
TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0200      0    1-   50    6  158-    6    6  176    2

*************************************************************
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0200    335  364   12  274    1    0   25    2   35    1    0
```

```
*************************************************************
023 0243 01/29/75
```

FIG. 6

```
**************************************************************************************
023 0223 01/29/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN TMP1   PYR   H2S   THC  CH4   CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   CCM   PPB   PPB  PPB   PPB   PPB

0130    CAL   CAL     4     1   112    88    70    9     0     5 1363*1380 1637    39
0135    CAL   CAL   CAL     2   104    88    70   11     0   CAL 1368*1373 1602   CAL
0140    CAL   CAL   CAL     1   122    87    71   11     0   CAL 1363 1356 1598   CAL
0145    CAL   CAL   CAL     3   123    87    71   10     0   CAL 1356*1363 1607   CAL
0150    CAL   CAL   CAL     2   114    87    71   11     0   CAL 1346*1373 1612   CAL
0155      2     0     0     2   130    88    71   12     0     2 1353*1363 1602    30
0200      0     0     0     2   136    87    71   11     0     2 1363 1348 1593    31
0205      0     0     0     3   149    87    70   11     0     2 1368 1348 1607    31
0210      0     0     0     4   146    85    70   12     0     2 1373 1361 1641    32
0215      4     0     0     3   149    95    69   12     0     3 1383 1370 1659    32
0220      7     3     0     4   160    87    69   13     0     3 1387 1365 1661    32
0125      0     0     2     1   148    87    69    9     0     5 1379 1368 1641    39

**************************************************************************************
TIME    WS2   WD2   RH2 TMP2   WS3   WD3   RH3 TMP3   WS4   WD4   RH4 TMP4   DT1   DT2 PRE
        MPH   DEG   PCT  DGF   MPH   DEG   PCT  DGF   MPH   DEG   PCT  DGF   HDG   HDG  MB

0130      4   106    76   12     7   109    74   13     4   120    70   14-  399   396  796
0135      4   109    76   12     7   112    73   13     4   128    70   14-  399   374  796
0140      4   120    76   12     6   109    73   12     5   122    70   14-  399   327  796
0145      6   133    76   12     8   128    73   12     5   154    70   14-  399   373  796
0150      6   129    76   13     6   136    73   13     5   186    70   14-  399   351  796
0155      6   132    75   13     6   138    73   13     5   184    70   14-  399   302  796
0200      6   145    75   13     7   157    73   14     5   192    70   14-  399   304  796
0205      7   161    75   14     7   174    72   15     6   202    70   15-  399   232  796
0210      7   148    74   16     7   152    72   15     6   180    70   15-  399   112  796
0215      7   154    74   16     7   146    72   15     6   170    70   15-  399   140  796
0220      8   150    74   15     8   141    73   15     7   156    71   15-  399   161  796
0125      4   142    76   11     6   112    73   12     3   122    70   13-  399   426  796

**************************************************************************************
TIME    WS5 HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH  DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

0130      0    1-   50     6  112-     6     4  116-     1
0135      0    2-   50     6  116-     9     4  121      0
0140      0    1-   50     6  112-     6     5  118      1
0145      0    1-   50     7  131-     9     5  146      0
0150      0    1-   50     6  138-     9     5  172      2
0155      0    1-   50     6  142-     7     5  168      3
0200      0    1-   50     6  158-     6     6  176      2
0205      0    1-   50     6  174-     3     7  184      4
0210      0    1-   50     6  152-     7     6  166      1
0215      0    2-   50     6  149-     6     6  158      3
0220      0    2-   50     7  142-     6     7  148      1
0125      0    1-   50     5  116-     5     3  118-     4

**************************************************************************************
TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

0130    506   226    66   402     1     0   104     4   532     2     0
0135    173   213    82   905     1     0    21     3   808     1     0
0140    774   100    41   262     1     0    70    10    22     4     0
0145    472   472    52   441     1     0    97     3   117     2     0
0150    200   114   290   621     1     0   272    20    13     4     0
0155    291   525   206   492     1     0   170     2   359     1     0
0200    375   364    12   274     1     0    25     2    35     1     0
0205    200    35   234   166     1     0   228     5   204     1     0
0210    157   407    93   494.    1     0   269     7   243     3     0
0215    533   374   135   280     1     0     9     3   377     2     0
0220    518   492    86   126     0     0   102     2   385     0     0
0225    358   563    72   374     1     0     8     5   377     2     0


5

023 0232 01/29/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN TMP1   PYR   H2S   THC  CH4   CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF  DGF   CCM   PPB   PPB  PPB   PPB   PPB

0230.     2     0     0     4   156    87    69   12     0     3 1400 1353 1666    33

**********************                **************************************************
```

FIG. 6

```
.........................................................................................
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

0230      6   146    75    14     8   144    74    15     7   164    72   15-  399   198  786

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

0230      0    1-    50     7  144-     7     8   152   . 2

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

0230    117   406     2   318     0     0    56     3   438     1     0

END - 0233




◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
023 0323 01/29/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4   CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

0230      2     0     0     4   156    97    69    12     0     3  1400  1353  1666    33
0235      6     2     0     3   130    97    69    12     0     2  1395  1361  1676    32
0240      6     1     0     4   135    98    68    10     0     2  1397  1368  1671    32
0245      5     1     0     4   144    99    69    11     0     3  1402  1363  1659    32
0250      6     5     0     5   154    99    69    11     0     2  1397  1346  1659    32
0255      7     5     0     5   156    99    69    14     0     2  1402  1358  1659    32
0300      8     3     0     5   156    99    69    14     0     1  1404  1362  1654    32
0305      6     3     0     4   148    98    69    13     0     1  1392  1370  1656    32
0310      6     3     0     4   156    98    69    13     0     1  1400  1356  1646    32
0315      5     1     0     4   152    98    69    13     0     0  1395  1343  1644    32
0320      6     3     0     4   146    98    69    14     0     1  1409  1351  1661    31
0225      6     2     0     3   146    87    68    13     0     4  1395  1348  1654    32

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2 PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG  MBR

0230      6   146    75    14     8   144    74    15     7   164    72   15-  399   198  716
0235      7   134    75    14     6   131    74    14     6   152    72   14-  399   242  716
0240      7   140    76    13     7   144    74    14     7   164    72   14-  399   225  716
0245      7   146    76    14     8   150    75    14     9   172    73   15-  399   317  716
0250      8   157    76    15     9   150    74    15     9   166    72   15-  399   209  716
0255      8   150    75    16     9   150    74    16     9   172    73   16-  399   158  716
0300      8   148    75    15     9   154    74    16     8   180    73   16-  399   205  716
0305      8   145    75    15     8   148    74    15     8   172    73   16-  399   253  716
0310      8   152    75    16     8   152    74    16     8   170    73   16-  399   177  716
0315      8   148    75    15     8   146    74    16     7   168    73   16-  399   248  716
0320      8   145    76    15     9   140    75    15     8   160    73   16-  399   290  716
0225      6   142    74    14     7   129    73    14     6   138    71   14-  399   210  716

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

0230      0    1-    50     7  144-     7     8   152     2
0235      0    1-    50     6  133-     6     6   145     0
0240      0    1-    50     6  144-     7     7   154     1
0245      0    1-    50     7  150-     6     9   160     1
0250      0    1-    50     9  150-     7     9   156     1
0255      0    2-    50     8  150-     7     9   153     1
0300      0    2-    50     8  154-     6     8   166     2
0305      0    1-    50     7  148-     7     9   160     1
0310      0    1-    50     8  150-     6     8   158     1
0315      0    1-    50     9  146-     6     7   159     2
0320      0    2-    50     8  141-     7     9   152     1
0225      0    1-    50     6  130-     5     6   131     2

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆              :....................
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FIG. 6

```
-•••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0230   117  406    2  318    0    0   56    3  438    1    0
0235   344  208   22  142    1    0  121    3  381    0    0
0240   440  194    9  224    0    0   54    1  314    0    0
0245   212  346  140  294    1    0  129    2   85    0    0
0250   212  194  118  294    1    0   48    1  441    0    0
0255   294  414   77  156    1    0   18    1   77    1    0
0300   331  285   84  190    1    0   54    3  280    0    0
0305   427  104   90  130    0    0   74    1  166    0    0
0310   194  446   61  188    1    0  144    2  493    0    0
0315   391   88   78  362    0    0   34    1  327    0    0
0320   242  219   14  115    1    0  150    2  156    0    0
0325   519   39   46  286    1    0   61    3  453    0    0
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
023 0423 01/29/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0330     6    3    0    5  145   88   69   13    0    0 1397 1351 1651   32
0335     8    3    0    2  137   88   69   13    0    0 1409 1365 1672   32
0340     7    2    0    2  126   89   69   12    0    0 1422•1426 1727   32
0345     8    3    0    1  106   89   69   13    0    0 1426•1475 1771   32
0350     6    4    0    2   88   89   69   12    0    0 1424•1495 1781   32
0355     5    0    0    3  104   90   69   12    0    0 1429•1505 1793   33
0400     6    3    0    2  108   90   69   12    0    0 1422•1505 1809   32
0405     7    1    0    3  152   91   68   13    0    0 1428•1438 1773   31
0410     6    2    0    3  146   90   69   12    0    0 1419•1443 1733   32
0415     6    2    0    4  149   90   69   12    0    0 1409 1395 1681   32
0420     5    0    0    4  154   89   69   12    0    0 1414 1341 1637   32
0325     7    3    0    5  142   88   69   13    0    0 1407 1353 1656   32
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PREC
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

0330     8  150   76   15   10  141   75   15   10  150   73   15-  399  199  736
0335     7  144   76   15    8  137   75   14   10  146   73   15-  399  220  736
0340     5  135   77   15    6  125   77   14    8  133   74   15-  399  185  736
0345     4  123   77   14    6  125   78   13    8  133   74   14-  399  234  736
0350     5  104   78   14    6  116   78   13    9  131   74   15-  399  249  736
0355     5  112   78   14    7  117   79   13   10  129   74   15-  399  335  736
0400     4  120   78   13    7  112   79   13   10  128   74   14-  399  307  735
0405     5  142   78   13    8  124   79   13   10  135   74   15-  399  402  735
0410     8  150   78   14    9  131   79   14   10  133   73   15-  399  357  736
0415     9  150   78   14   10  132   78   14   10  136   72   15-  399  268  736
0420     7  150   77   14   10  132   77   15   10  145   72   15-  399  253  736
0325     9  148   76   15   10  142   75   15   10  156   73   16-  399  261  736
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0330     0   1-   50    9 142-    7   11  145    0
0335     0   1-   50    8 138-    4   10  140    2
0340     0   1-   50    5 126-    7    3  133    1
0345     0   2-   50    5 128-    5    3  126    2
0350     0   2-   50    6 118-    5   10  125    1
0355     0   1-   50    6 120-    5   10  122    1
0400     0   1-   50    6 113-    5   10  121    1
0405     0   1-   50    8 125-    6   11  129    1
0410     0   1-   50    9 133-    6   10  132    1
0415     0   1-   50    9 134-    6   10  130    1
0420     0   1-   50   10 133-    6   10  137    1
0325     0   2-   50    9 144-    6   11  150    1
```

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0330    96  356    6   56    1    0  138    2  401    0    0
0335    11  166    4   69    1    0  102    3  368    0    0
0340    70  405   46  251    1    0   84    1  349    0    0
0345   393  445   65   54    0    0    7    3  405    0    0
0350   430  450   44   73    1    0   73    2   13    0    0
0355   131    7   83  374    1    0    7    4  438    0    0
0400     8   56   74   73    1    0  166   13  166    0    0
0405    11   97  161  257    1    0  146    6  230    0    0
0410    83  277   54   97    2    0   70    2  132    0    0
0415   372  370   60   46    1    0   59    3  106    0    0
0420   400  100   13  369    1    0  103    2   92    0    0
0425   121  389   36  157    1    0  157    2  468    0    0
```

FIG. 6

```
0
ZERO  NO CAL
0
ZERO  NO CAL
M
MAN CAL SYSTEM = 0

CAL  NOX 0437 01/29/75

M
MAN CAL SYSTEM = 1

CAL  NO 0437 01/29/75

R

023 0438 01/29/75
TIME     NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
         PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB .PPB  MPH  MPH  MPH  MPH  MPH  MPH

0438       8    5   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

E

END - 0438




*******************************************************************************
023 0523 01/29/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0430       7    0    0    4  154   89   69   12    0    0 1404 1270 1583   32
0435       7    3    0    4  154   89   69   12    0    0 1412 1253 1553   31
0440     CAL  CAL    0    4  150   89   69   12    0    0 1404 1241 1546   32
0445     CAL  CAL    0    4  138   88   69   12    0    0 1375 1246 1566   33
0450     CAL  CAL    0    4  136   89   68   13    0    0 1390 1253 1571   32
0455     CAL  CAL    0    4  144   89   68   12    0    0 1404 1243 1558   32
0500     CAL  CAL    0    3  136   89   68   11    0    0 1400 1253 1571   32
0505     CAL  CAL    0    4  133   89   68   11    0    0 1385 1246 1575   32
0510     CAL  CAL    0    2  122   88   68   10    0    0 1395 1248 1566   32
0515     CAL  CAL    0    3  118   89   68   11    0    0 1404 1260 1573   33
0520     CAL  CAL    0    2  114   89   69   11    0    0 1392 1255 1595   33
0425       5    3    0    4  152   89   69   12    0    0 1414 1302 1602   32

*******************************************************************************
TIME     WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PREC
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDS  HDS  MBR

0430       9  158   77   14   10  145   76   14   11  150   71  15-  399  280  736
0435       9  156   77   14   11  140   76   14   11  150   71  15-  399  278  735
0440       9  150   77   14   11  135   76   15   10  146   71  15-  399  272  736
0445       8  142   76   14   10  135   75   15   10  149   71  15-  399  250  734
0450       8  134   76   14   11  128   75   14   10  146   71  15-  399  302  736
0455       8  142   77   13   12  125   75   14   12  141   72  14-  399  309  734
0500       8  135   77   13   12  120   75   14   11  137   72  14-  399  322  734
0505       9  128   77   13   11  117   75   14   10  133   72  14-  399  287  735
0510       7  125   77   13   10  114   74   13    9  137   72  14-  399  241  73
0515       6  120   77   13    9  112   75   13    8  135   73  14-  399  216  735
0520       6  117   77   12    9  114   76   12    9  136   73  14-  399  267  735
0425       9  152   77   14   11  142   77   14   11  152   72  15-  399  278  736

*******************************************************************************
TIME     WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0430       0   1-   50   10 145-    5   11  144    1
0435       0   1-   50   10 141-    6   11  142    1
0440       0   1-   50   11 136-    5   11  138    1
0445       0   2-   50   10 126-    5   10  141    1
0450       0   2-   50   10 120-    6   10  137    1
0455       0   1-   50   11 126-    6   12  133    1
0500       0   2-   50   11 121-    6   11  130    1
0505       0   0-   50   10 118-    6   10  126    1
0510       0   2-   50    9 113-    6    9  120    1
0515       0   1-   50    9 116-    7    9  129    1
0520       0   1-   50    9 116-    8    9  129    1
0425       0   1-   50   10 142-    8   12  146    1
```

FIG. 6

```
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0430   526  178   24   30    1    0   14    2  402    0    0
0435    15  133    9  235    2    0   33    2  128    0    0
0440   173  130   42  252    2    0  102    3   19    0    0
0445   426   89   36   94    1    0   60    3   12    1    0
0450   208  213   10  496    0    0   96    4  543    0    0
0455   284  422    5  305    2    0   10    2  123    0    0
0500   221  397  104  314    1    0  134    1  403    0    0
0505   462  435   13  257    1    0   83    1  212    0    0
0510   243  416   82  438    0    0   36    1  372    0    0
0515    20  299  100  335    2    0   79    3  198    0    0
0520   335   90   49  232    2    0   72    8  267    0    0
0525   176   92   28  486    1    0   54    7   89    0    0


END - 0536

M
MAN CAL SYSTEM = 0

CAL  NOX 0543 01/29/75

M
MAN CAL SYSTEM = 1

CAL  NO 0543 01/29/75

R

023 0544 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0544     67   51   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0544 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0544     79   58   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0545 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0545     84   63   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0547 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0547     91   74   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0548 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0548     89   79   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0549 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0549    24*   88   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0550 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0550    89*   93   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0551 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0551     87   86   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R
```

FIG. 6

```
023 0604 01/29/75
TIME     NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
         PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0604 -    3-    3   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0605 01/29/75
TIME     NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
         PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0605 -    3-    3   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0607 01/29/75
TIME     NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
         PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0607 -    5-    6   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0608 01/29/75
TIME     NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
         PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0608 -    1-    2   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

0
ZERO CHAN = 0
0
EERO HHAN = 1
0
ZERO CHAN = 1
E

END - 0608
&
```

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023 0623 01/29/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYP  H2S  THC  CH4   CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0530     CAL  CAL    0    2  113   89   68   10    0    0 1404 1258 1590   32
0535     CAL  CAL    0    2  120   90   68   10    0    0 1402 1255 1595   33
0540     CAL  CAL    0    2  128   90   68   10    0    0 1395 1255 1590   32
0545     CAL  CAL    0    2  140   89   68   10    0    0 1402 1258 1575   32
0550     CAL  CAL    0    3  131   89   68   10    0    0 1400 1255 1571   33
0555     CAL  CAL    0    2  118   89   68   11    0    0 1392 1258 1585   33
0600     CAL  CAL    0    2  110   89   68   11    0    0 1395 1259 1583   32
0605     CAL  CAL    0    1  114   89   68   11    0    0 1390 1255 1573   33
0610     CAL  CAL    0    2   98   89   68    9    0    0 1397 1253 1593   33
0615     CAL  CAL    0    2  126   89   68   10    0    0 1385 1258 1588   32
0620       0    0    0    2  145   89   68   11    0    0 1395 1258 1580   33
0525     CAL  CAL    0    2  109   89   68   11    0    0 1397 1255 1585   32

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TIME     WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MSP

0530       5  113   78   12    9  110   77   12    8  129   73  14-  399  401  716
0535       5  123   78   12    9  118   77   12    9  135   73  15-  399  454  716
0540       6  133   78   11   10  125   77   12   11  139   72  14-  399  409  715
0545       6  145   79   12    9  124   77   12   10  132   72  14-  399  417  715
0550       6  133   78   12    8  121   78   11   11  130   72  14-  399  390  715
0555       6  126   78   12   10  119   79   12   11  133   72  14-  399  420  715
0600       6  125   79   12   10  113   78   12   11  129   72  14-  399. 413  715
0605       1  122   79   12    9  112   78   12   12  126   72  14-  399  443  715
0610       6  103   78   12    9  112   78   12   12  126   72  14-  399  460  715
0615       6  123   79   11   11  117   78   12   14  128   72  14-  399  432  715
0620       6  179   78   12   11  113   78   12   13  129   72  14-  399  426  715
0525       6  114   77   12    9  112   76   13    9  131   73  14-  399  371  716

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FIG. 6

```
023 0552 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0552     91   89   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0553 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0553     90   89   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

1
SPAN CHAN = 0
1
SPAN CHAN = 1
R

023 0554 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0554     44*  47   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0555 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0555     16*  20   83    0   93 1397 1329 1524  375    0    0    0    0    0    0


R

023 0558 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0558      2    1   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0559 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0559      2    2   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0600 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0600      3    1   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0601 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0601      4    1   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0602 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0602      0-   2   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R

023 0603 01/29/75
TIME    NOX   NO  SO2  WS1  H2S  THC  CH4   CO   O3  WS2  WS3  WS4  WS5  WS6  WS7
        PPB  PPB  PPB  MPH  PPB  PPB  PPB  PPB  PPB  MPH  MPH  MPH  MPH  MPH  MPH

0603      3    0   83    0   93 1397 1329 1524  375    0    0    0    0    0    0

R
```

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FIG. 6

```
TIME    WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
        MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

0530      0   1-   50     8  112-    6     9  121    1
0535      0   1-   50     9  120-    6    10  123    1
0540      0   1-   50     9  126-    6    11  131    1
0545      0   1-   50     9  126-    6    11  125    1
0550      0   1-   50     9  122-    6    12  123    1
0555      0   1-   50     9  120-    6    11  124    1
0600      0   1-   50    10  116-    6    11  121    1
0605      0   1-   50     8  112-    7    12  120    1
0610      0   2-   50     9  114-    6    12  121    1
0615      0   1-   50    10  118-    8    14  120    0
0620      0   1-   50    10  120-    7    14  121    0
0525      0   1-   50     8  113-    6     9  123    1

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0530    245  303  142  422    1    0   46    7  184    0    0
0535    523  446   40  121    0    0    1    6   60    0    0
0540    275  128   65   58    1    0   72    4  433    0    0
0545    216   89  166   54    1    0   13    3  232    1    0
0550    370  494   17  220    1    0   61    5  218    1    0
0555    182  133   88  458    0    0   52    3  337    0    0
0600    425  216   69  344    1    0   72    4  449    0    0
0605     34  106   30   58    1    0  158    8  496    0    0
0610    299  117    3  217    0    0    4   11  422    0    0
0615    436  170   11  416    0    0   35    3  259    0    0
0620     93  466   66   13    1    0   70    4    3    0    0
0625     34   52   38  408    1    0   49    4  117    0    0


&
5

023 0634 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0630    CAL  CAL    0    3  134   88   68   11    0    0 1385 1260 1593  CAL

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBF

0630      7  132   78   12   12  122   77   13   12  137   71   14-  399  377  785

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TIME    WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
        MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

0630      0   1-   50    11  124-    7    12  130    0

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0630    152  454  120  268    1    0    3    3  417    0    0


&
5

023 0641 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0640      2    2  CAL    3  134   89   69   11    0    0 1383 1268 1590   33

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBF

0640      7  128   77   12   12  116   76   13   12  138   71   15-  399  432  785

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TIME.   WS5 HWD5 VWD5   WS6 HWD6 VWD6   WS7 HWD7 VWD7
        MPH  DEG  DEG   MPH  DEG  DEG   MPH  DEG  DEG

0640      0   1-   50    12  113-    7    12  131    0

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FIG. 6

```
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0640   199   58    4  293    1    0   68    5  359    0    0

END - 0642
Y

LAST CAL
 NOX 0543  01/29      INPUT PPB:     89
     LAST ZERO:      0     NEW ZERO: -    1  LAST SPAN:    96   NEW SPAN:    89
  NO 0543  01/29      INPUT PPB:     89
     LAST ZERO: -    3     NEW ZERO: -    3  LAST SPAN:    80   NEW SPAN:    89
 SO2 0137  01/29      INPUT PPB:    116
     LAST ZERO:      0     NEW ZERO:      2  LAST SPAN:   119   NEW SPAN:   119
 H2S 0137  01/29      INPUT PPB:    116
     LAST ZERO:      0     NEW ZERO:      0  LAST SPAN:   116   NEW SPAN:   119
 THC 0419  01/28      INPUT PPB:   3400
     LAST ZERO:   1831     NEW ZERO:      0  LAST SPAN:  3400   NEW SPAN:  3415
 CH4 0419  01/28      INPUT PPB:   3400
     LAST ZERO:      0     NEW ZERO:      0  LAST SPAN:    24   NEW SPAN:  3400
  CO 0419  01/28      INPUT PPB:   4499
     LAST ZERO: 13636      NEW ZERO:      0  LAST SPAN:  1248   NEW SPAN:  4499
  O3 0137  01/29      INPUT PPB:    380
     LAST ZERO:      0     NEW ZERO:      2  LAST SPAN:   390   NEW SPAN:   383




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023 0723 01/29/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0630   CAL  CAL    0    3  134   88   68   11    0    0 1385 1260 1593  CAL
0635   CAL  CAL    0    4  132   89   69   12    0    0 1390 1260 1595  CAL
0640     2    2  CAL    3  134   89   69   11    0    0 1383 1268 1590   33
0645    7*    9  CAL    4  125   89   69   12    0    0 1379 1268 1585   33
0650     0    0    0    4  120   89   69   11    0    0 1380 1250 1563   32
0655     0    0    0    4  122   89   70   10    0    0 1375 1255 1561   33
0700     0    0    0    3  114   89   70   11    0    0 1373 1258 1555   33
0705     0    0    0    3  116   88   70   11    0    0 1365 1246 1544   34
0710     0    0    0    3  118   88   70   11    0    0 1368 1241 1534   33
0715     0    0    0    3  106   88   70   12    0    0 1375 1243 1541   34
0720     0    0    0    4  105   88   71   12    0    1 1385 1242 1551   35
0625     0    0    0    2  142   89   68   10    0    0 1397 1260 1583  CAL

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

0630     7  132   78   12   12  122   77   13   12  137   71   14-  399  377  735
0635     7  128   78   13   13  116   76   13   12  133   71   15-  399  335  735
0640     7  129   77   12   12  116   76   13   12  138   71   15-  399  433  735
0645     9  123   77   12   13  117   75   14   11  135   71   15-  344  435  735
0650     9  117   77   13   11  122   74   15   11  137   70   15-  344  393  735
0655     9  121   77   13   12  124   74   15   12  142   70   15-  344  352  735
0700     8  120   77   13   11  126   74   14   11  142   70   15-  344  331  735
0705     7  113   76   13   11  123   74   14   12  142   70   15-  344  335  735
0710     9  125   76   13   12  129   73   15   11  143   70   15-  344  335  735
0715     8  109   76   15   10  119   73   15    9  136   70   15-  344  354  735
0720     9  108   75   15   11  108   73   15   10  125   70   15-  344  [illegible]  735
0625     6  137   78   12   11  120   78   12   13  132   72   14-  344  437  735

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0630     0   1-   50   11 124-    7   12  130    0
0635     0   1-   50   12 117-    7   12  125    0
0640     0   1-   50   12 119-    7   12  131    0
0645     0   2-   50   12 120-    6   11  122    1
0650     0   1-   50   11 124-    6   11  130    1
0655     0   1-   50   11 126-    6   12  136    0
0700     0   1-   50   11 130-    7   11  135    1
0705     0   1-   50   11 136-    7   12  135    1
0710     0   1-   50   11 132-    6   11  140    1
0715     0   1-   50   10 131-    6   10  130    2
0720     0   2-   50   10 110-    7   10  120    1
0625     0   1-   50   10 121-    5   13  124    1
```

FIG. 6

```
••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0630    152  454  120  263    1    0    3    3  417    0    0
0635    316  453   82  250    1    0   54    2  202    0    0
0640    189   58    4  293    1    0   68    5  359    0    0
0645     84  393   26  261    1    0   24    3   65    0    0
0650    269  202   82  452    1    0   58    3  426    0    0
0655    146  104    8  168    1    0   70    4  202    1    0
0700    267  429   97  156    1    0   86    3  476    0    0
0705     30  194  122  299    1    0   49    1  276    0    0
0710    188  259   28  106    1    0    6    3   82    1    0
0715    277  571   16  206    1    0   41    4  249    0    0
0720    445  377   13  295    1    0   69    4  164    2    0
0725     62  474  160  505    2    0  252    7  230    3    0

L
UNIT 0 REC 024
UNIT 1 REC 024
UNIT 2 REC 000


&

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023 0742 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0740      0    0    0    2  120   87   70   11    1    0 1368 1236 1558   34

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

0740      7  112   75   14   11  102   73   14   11  117   70  15-  399  332  785

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0740      0   2-   50   11 104-    2   11  112    3

••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0740    756  269   60  376    1    0   52   10    3    3    0


H
HI VOL = 1




••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••••
023 0823 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0730      0    0    0    2  106   87   71   10    0    1 1373 1238 1563   34
0735      0    0    0    3  116   87   70   11    0    0 1380 1241 1555   34
0740      0    0    0    2  120   87   70   11    1    0 1368 1236 1558   34
0745      0    0    0    3  116   87   70   11    3    0 1335 1229 1571   34
0750      0    0    0    3  114   87   70   12    3    0 1325 1229 1571   34
0755      0    0    0    2   93   87   70   11    4    0 1329 1233 1575   33
0800     1•    2    0    3   94   87   70   12    6    1 1356 1246 1577   35
0805      0    0    0    5  101   86   71   13    8    0 1348 1243 15[illegible]   35
0810      0    0    0    4  106   85   71   13    9    1 1339 1251 15[illegible]   35
0815      2    0    0    4   78   85   70   13   10    1 1329 1246 1575   34
0820      0    0    0    4   80   86   71   14   12    1 1353 1255 1607   35
0725      0    0    0    3  113   87   71   11    0    1 1373 1238 1558   35

....
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FIG. 6

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4   DT1   DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF   HDG   HDG  MB

0730      8  108   75   13   11   98   73   14   10  112   70   15-  399   241  785
0735      8  116   75   13   10  102   73   14   10  117   70   15-  399   255  785
0740      7  112   75   14   11  102   73   14   11  117   70   15-  399   232  785
0745      9  117   75   14   10  102   72   14   10  121   70   15-  399   233  785
0750      7  110   75   13   10   97   72   14    9  114   70   15-  399   241  785
0755      7   97   75   14   10   92   72   14    8  112   70   15-  399   235  785
0800      8  101   75   14   12   98   73   14   11  112   70   15-  399   259  785
0805     10  102   74   15   11  100   72   15   11  117   70   15-  399   132  785
0810      8  103   74   15   10  100   72   14    9  114   70   15-  399   131  785
0815      9   86   74   15   12   84   72   14   10  101   70   15-  399   145  785
0820      9   89   74   15   11   92   72   15   10  104   70   15-  399   137  785
0725      8  120   75   14   10  114   73   14    9  125   70   15-  399   254  785

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG  .

0730      0   1-   50   10 102-    5   11  108    2
0735      0   1-   50   10 106-    6   10  112    2
0740      0   2-   50   11 104-    2   11  112    3
0745      0   2-   50    9 106-    6   10  116    2
0750      0   1-   50   10 101-    6    9  109    1
0755      0   2-   50    9  94-    6    8  103    2
0800      0   2-   50   11 102-    4   11  108    4
0805      0   2-   50   11 104-    5   11  112    1
0810      0   2-   50    9 102-    6    9  110    4
0815      0   2-   50   11  88-    6   10   98    1
0820      0   2-   50   10  94-    6   10  101    2
0725      0   1-   50    9 116-    6   10  120    1

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TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0730    531  192   42  269    1    0   11    3   97    1    0
0735      8  162  189  130    1    0    7   10  472    3    0
0740    756  268   60  376    1    0   52   10    3    3    0
0745     54  518  169  638    1    0   82    6   42    1    0
0750     21  357   64  496    2    0   30    6  132    2    0
0755     84  333   44  653    1    0    4    8  133    4    0
0800    236  306  197  261    1    0  166    6  334    3    0
0805    495  501   92  282    1    0  104    9  320    3    0
0810    995   45  138  466    0    0  243   11   78    6    0
0815     92  559  125  310    0    0   69    7  220    3    0
0820    413  465    6  244    1    0   62    8  168    3    0
0825     94  456   20  590    1    0   13    4  386    4    0




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023 0923 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

0830      0    0    0    4   69   86   71   14   17    2 1348 1255 1602   36
0835      0    0    0    5   62   85   70   14   23    2 1351 1253 1590   35
0840      0    0    0    5   84   86   71   15   24    4 1363 1268 1600   36
0845      0    0    0    4   72   84   71   15   19    2 1356 1275 1619   36
0850      0    0    0    4   80   84   71   15   23    3 1363 1285 1637   35
0855      0    0    0    4   66   83   70   15   36    2 1361 1299 [illegible] [illegible]
0900      0    0    0    4   89   83   71   17   42    4 1368 1319 1659   35
0905      0    0    0    3   78   81   70   16   36    3 1368 1339 1676   35
0910      1    0    0    5   85   81   70   18   42    6 1392 1369 1702   36
0915      0    0    0    4  112   81   71   19   49    6 1390•1395 1731   37
0920      0    0    0    5   78   81   71   17   47    3 1370•1385 1733   36
0825      0    0    0    4   74   86   71   13   13    2 1356 1260 1634   36

 .............................................................................
```

FIG. 6

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TIME     WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1   DT2 RAF
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG   HDG MIF

0830       9   76   74   15   11   77   71   15    9   90   70   15- 399   196 785
0835      11   73   74   15   12   73   71   15   10   94   69   15- 399   162 785
0840       8   84   74   15   11   78   71   15   10   83   69   16- 399   174 785
0845       9   82   73   16   11   86   71   15   10  102   69   15- 399   118 785
0850       9   84   73   16   11   85   71   15   10  104   69   15- 399    94 785
0855       9   76   73   17   11   80   71   15   10   97   69   15- 399    56 784
0900       7  100   72   17    8   96   71   15    8  116   69   16- 399-   11 785
0905       8   84   72   17   10   86   70   15    9  102   69   15- 399-   16 784
0910       8   85   72   18   10   82   71   16    9  103   69   16- 399-   60 785
0915       7  104   72   18    8   92   71   16    8  104   70   16- 399-   77 785
0920       8   82   72   18   10   80   71   16    9   93   69   16- 399-   39 784
0825       7   94   74   15   10   84   72   15    7  100   70   15- 399   157 785

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TIME     WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

0830       0   1-   50   11  80-    6    9   89    1
0835       0   2-   50   12  79-    7   10   84    2
0840       0   2-   50   11  82-    6   10   86    2
0845       0   2-   50   10  90-    4   10   98    4
0850       0   2-   50   10  88-    2   10  101    5
0855       0   2-   50   11  82-    4   10   96    3
0900       0   2-   50    8  98-    4    8  112    5
0905       0   2-   50    9  90-    6    9   98    3
0910       0   2-   50    9  96-    6    9  104    4
0915       0   2-   50    7  96-    5    9  101    5
0920       0   1-   50    9  82-    6    9   92    2
0825       0   1-   50    9  88-    9    8   97    0

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TIME    WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0830      90  174   42  646    2    0   32    6  154    2    0
0835     395  234   30  634    1    0    8    2   72    1    0
0840      85  257  118  488    0    0  154   10  101    3    0
0845     482  202   30  208    1    0   24   12  490    8    0
0850      33  490  192  797    1    0  142    9  460    5    0
0855     295  224  160  297    0    0  204    9  113    6    0
0900     209  652  442  853    1    0  362   22  451   10    0
0905     362  293  106  573    0    0  108   12  173    6    0
0910     550  616  395  571    1    0  384   20    8    9    0
0915     138  166  142  380    1    0  150   11  410    4    0
0920      58   92   36  289    0    0  122    8  242    3    0
0925     112  331  120  478    2    0   82   12  208    3    0


106101 CAS 0 - 1007

177774 CAS 1 - 1009
134100 CAS 1 - 1010
L
?
L
UNIT 0 REC 026
UNIT 1 REC 027
UNIT 2 REC 000

C
&

CAS DOWN - 1017
134100 CAS 1 - 1017
L
UNIT 0 REC 026
UNIT 1 REC 028
UNIT 2RREC 000


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023 1021 01/29/75
TIME     NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1020       0    0    0    7  149   76   71   23   61    1 1370 1314 1656   39
```

FIG. 6

```
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2  PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG   MBR

1020     11   152    69    24    13   146    68    21    12   160    66   22-  399-   68   784

*******************************************************************************************
TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

1020      0    1-    50    12  146-     6    12   150    13

*******************************************************************************************
TIME   WDV1  WDV2  WDV3  WDV4  HWV5  VWV5  HWV6  VWV6  HWV7  VWV7  RAIN
        DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   DEG   HDT

1020    485    78    24   368     2     0    62     3    84     5     0
```

```
*******************************************************************************************
023 1023 01/23/75
TIME    NOX    NO   SO2   WS1   WD1   RH1   TIN  TMP1   PYR   H2S   THC   CH4    CO    O3
        PPB   PPB   PPB   MPH   DEG   PCT   DGF   DGF   CCM   PPB   PPB   PPB   PPB   PPB

0930      0     0     0     4    98    81    71    17    45     5  1407  1348  1690    36
0935      0     0     0     3    80    80    71    19    47     4  1390  1356  1717    36
0940      0     0     0     3    72    80    70    17    47     3  1397  1361  1732    35
0945      0     0     0     5    70    81    71    19    50     4  1397  1356  1698    36
0950      0     0     0     3    56    80    71    18    51     4  1400  1334  1676    35
0955      0     0     0     3    56    81    71    19    52     3  1426  1331  1683    36
1000      0     0     0     3    54    80    71    19    54     2  1402  1334  1663    36
1005      0     0     0     2    65    80    71    19    56     3  1444  1353  1795    37
1010      0     0     0     3   123    80    71    21    58     3  1370  1314  1793    38
1015      3     0     0     7   158    78    71    23    59     2  1368  1299  1654    38
1020      0     0     0     7   149    76    71    23    61     1  1370  1314  1656    39
0925      0     0     0     4    82    80    70    18    44     4  1400  1373  1700    35

*******************************************************************************************
TIME    WS2   WD2   RH2  TMP2   WS3   WD3   RH3  TMP3   WS4   WD4   RH4  TMP4   DT1   DT2  PRES
        MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   MPH   DEG   PCT   DGF   HDG   HDG   MBR

0930      7    93    72    19     9    86    72    16     8   101    70   17-  399-   92   785
0935      7    82    72    19     8    77    72    16     7    95    70   16-  399-  106   784
0940      7    77    72    19     7    72    73    16     6    89    71   16-  399-   92   784
0945      8    69    72    19     8    66    73    17     7    98    72   17-  399-   37   784
0950      7    60    72    19     7    72    73    17     5   133    72   18-  399    43   784
0955      6    65    72    19     6    90    73    18     5   134    71   19-  399    76   784
1000      6    64    72    20     5    90    73    19     6   142    71   19-  399    41   784
1005      5    77    72    21     6   102    73    20     5   140    71   20-  399-   11   784
1010      6   142    72    22     8   150    73    20     9   172    70   21-  399-   17   784
1015     10   160    70    24    12   157    70    22    11   174    67   22-  399-   44   784
1020     11   152    69    24    13   146    68    21    12   160    66   22-  399-   68   784
0925      7    84    72    19     8    95    72    16     8    97    70   16-  399-   95   784

*******************************************************************************************
TIME    WS5  HWD5  VWD5   WS6  HWD6  VWD6   WS7  HWD7  VWD7
        MPH   DEG   DEG   MPH   DEG   DEG   MPH   DEG   DEG

0930      0    2-    50     8   90-     6     9    98     8
0935      0    2-    50     7   80-     6     7    94    16
0940      0    1-    50     7   76-     7     6    89    10
0945      0    2-    50     7   70-     8     7    99    15
0950      0    2-    50     6   76-     2     5   126    21
0955      0    2-    50     5   93-     4     5   128    19
1000      0    1-    50     4   94-    10     6   135    13
1005      0    2-    50     5  106-     7     5   133    11
1010      0    1-    50     7   143     0    10   157    12
1015      0    0-    50    11  156-     6    11   163    15
1020      0    1-    50    12  146-     6    12   150    13
0925      0    1-    50     7   83-     3     8    94     4

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FIG. 6

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HH77 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

0930   519  224   84  436    0    0   42    8  396    2    0
0935   235   30  128  109    1    0   30    7  212    1    0
0940   134  453   64  573    2    0   65    8  251    1    0
0945    26   16   41  504    1    0   90    7   13    7    0
0950   173  224   96  870    1    0    3   12  622   13    0
0955   152  180  318  756    1    0  346   18   24    9    0
1000     7   74  674  678    2    0  620   32  518   14    0
1005   923  336  658  946    1    0  634   57  722    8    0
1010  2389  620   90  419    0    0  236   13  278    5    0
1015   362  453   23  117    0    0  108    4  445    3    0
1020   485   78   24  368    2    0   62    3   84    5    0
1025   325   82  136  292    1    0   94    4  501    1    0
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023 1123 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1030      0    0    0    6  154   74   71   22   64    0 1331 1302 1673   39
1035      1    0    0    6  154   74   71   23   66    1 1345 1312 1685   38
1040      0*   1    5    5  141   72   71   22   65    8 1348 1317 1673   38
1045      0    0    0    6  149   72   71   23   62    5 1346 1309 1663   39
1050      0    0    0    6  148   72   71   24   70    3 1346 1292 1663   39
1055      0    0    0    6  152   71   71   24   69    2 1353 1309 1688   39
1100      0    0    0    6  152   70   71   23   66    0 1341 1304 1665   40
1105      0    0    0    5  150   70   70   25   70    1 1331 1290 1659   39
1110      0    0    0    7  150   69   70   25   72    1 1343 1297 1651   40
1115      0    0    0    4  174   69   70   25   71    1 1345 1302 1651   40
1120      0    0    0    5  192   69   70   26   72    1 1343 1290 1651   41
1025      0    0    0    6  144   74   71   22   63    0 1353 1312 1659   39
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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1   DT2 PRES
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG   HDG  MBR

1030     10  156   68   24   12  149   67   22   12  162   64   22- 399-  63  794
1035     10  156   67   24   11  150   67   22   11  166   64   22- 399-  77  794
1040     11  148   67   25   12  149   66   23   13  165   63   22- 399-  58  794
1045     10  150   66   25   11  145   66   22   11  157   63   23- 399-  75  794
1050     10  150   66   25   12  146   65   23   12  165   62   23- 399-  66  794
1055     10  156   66   25   12  149   65   23   12  162   63   23- 399-  69  794
1100     10  157   65   25   11  150   65   24   10  165   63   23- 399-  90  794
1105      9  152   65   26   11  146   65   23   10  161   63   23- 399-  94  794
1110     11  156   64   26   12  152   64   24   11  166   62   24- 399-  39  794
1115      6  176   65   26    8  164   65   24    9  194   62   24- 399-  90  794
1120      9  202   64   27   10  202   65   25   10  208   62   25- 399-  35  794
1025     11  148   68   24   13  144   67   21   11  163   64   22- 399-  50  794
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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1030      0    1-   50   11  150-    6   13  152    3
1035      0    2-   50   11  152-    4   11  154    3
1040      0    2-   50   11  150-    3   13  154    3
1045      0    1-   50   11  145-    4   12  148    3
1050      0    1-   50   11  146-    5   12  154    2
1055      0    2-   50   11  149-    6   12  152    2
1100      0    1-   50   10  150-    5   10  154    4
1105      0    1-   50   10  146-    6   10  150    3
1110      0    1-   50   11  152-    6   11  154    3
1115      0    1-   50    7  162-    1    9  169    4
1120      0    1-   50    9  196     0   10  198    7
1025      0    2-   50   12  146-    5   12  152    5

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FIG. 6

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TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VW55 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1030   440  258   61  397    1    0   58    6  335    2    0
1035    11  253   84  245    0    0   65    7  370    2    0
1040   208   66  106  409    0    0   72    9   50    2    0
1045   387   95   60  369    2    0  109   10  280    3    0
1050    69  358  113  458    2    0   15    5  395    1    0
1055   190  522   78  344    0    0  218    5  286    1    0
1100   173  357   69   80    1    0   92   10   92    5    0
1105    66  104   15  230    1    0  124   10  196    1    0
1110  1302  181  184  388    2    0  212   12  572    4    0
1115   198  644  261  469    1    0  125   15  437    4    0
1120     0  442  264  299    2    0  283   15  395    7    0
1125   206  321  378  216    1    0  202   13  233    5    0
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023 1223 01/29/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1130    0◆    2    0    7  188   68   71   26   62    1 1348 1302 1659   42
1135    0     0    0    9  196   68   71   27   73    1 1348 1292 1641   43
1140    0     0    0    7  196   67   71   26   83    1 1351 1282 1629   43
1145    0     0    0    9  194   67   71   27   98    1 1353 1287 1629   42
1150    0     0    0   11  190   67   72   27   87    1 1351 1290 1649   44
1155    0     0    0   11  185   67   71   28   84    1 1341 1285 1651   43
1200    0     0    0    9  188   67   72   27   87    1 1341 1290 1654   44
1205    0     0    0   12  170   67   72   27   88    0 1343 1295 1663   44
1210    0     0    0   12  174   67   72   28   86    1 1343 1299 1654   44
1215    0     0    0   11  182   67   72   27   87    0 1339 1292 1644   44
1220    0     0    0   12  184   67   71   28   86    0 1334 1295 1654   44
1125    0     0    0    6  190   67   71   26   72    1 1346 1290 1651   42

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

1130    11  197   63   27   13  192   64   25   12  204   62  25- 399-   76  784
1135    12  198   63   27   14  199   64   25   13  208   62  25- 399-   79  784
1140    11  204   63   27   12  197   64   25   12  204   62  25- 399-   77  784
1145    13  204   63   28   14  196   64   25   15  206   62  26- 399-   96  784
1150    15  196   62   28   16  188   63   26   15  202   61  26- 399-   83  784
1155    15  194   62   28   17  190   63   26   17  204   61  26- 399-   79  784
1200    13  190   62   28   16  184   63   26   17  198   61  26- 399-   93  784
1205    16  176   62   29   18  172   63   27   19  185   61  26- 399-  102  784
1210    16  180   62   29   18  176   63   26   18  188   61  26- 399-  105  784
1215    15  190   62   29   18  183   63   27   18  206   61  27- 399-   75  784
1220    16  192   62   29   18  189   63   26   18  200   61  26- 399-   87  784
1125    10  200   63   27   11  193   64   25   11  209   62  25- 399-   73  784

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1130     0   2-   50   12  188    0   12  195    8
1135     0   1-   50   13  192    0   13  189    8
1140     0   2-   50   12  192-   4   12  188    6
1145     0   2-   50   13  190    0   15  198    9
1150     0   2-   50   15  184-   5   15  184    4
1155     0   2-   50   16  188-   4   18  198    4
1200     0   2-   50   15  181-   1   17  180    6
1205     0   2-   50   17  170-   4   19  172    5
1210     0   2-   50   17  174-   4   19  176    4
1215     0   2-   48   17  184    0   18  188    8
1220     0   2-   50   17  184-   5   19  184    4
1125     0   2-   50   11  188-   3   11  189    5
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FIG. 6

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TIME. WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1130   226  532  286  236    0    0  170   26  438   12    0
1135   478  413  204  376    2    0  170   21  293   14    0
1140   145  372  146  417    2    0  281   14  356    8    0
1145   279  150  220  559    2    0  221   18  241    9    0
1150    82  110   97  462    0    0  128   15  462   10    0
1155    28  129   85  101    1    0  120   12  363    3    0
1200   106  154  145  262    2    0   61   13  478    6    0
1205   611  132   18  104    0    0  141    9  416    4    0
1210   615  523   72  328    2    0  257   10  360    4    0
1215   585  212  310  446    3   18  117   21  240    9    0
1220    82  104  236  180    2    0  193    7  219    3    0
1225   318  513  102  190    1    0  112   12  163    5    0


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023 1323 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1   TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT   DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1230      0    0    0   12  185   66    72   28   85    1 1336 1292 1637   45
1235      0    0    0   10  186   67    72   28   84    1 1331 1270 1610   44
1240      0    0    0    8  178   67    73   28   86    0 1336 1259 1605   44
1245      0    0    0    8  198   66    73   27   82    0 1336 1265 1607   44
1250      0    0    0    6  186   66    73   27   78    0 1331 1265 1605   45
1255      0    0    0    9  178   67    74   28   77    2 1339 1263 1597   45
1300      0    0    0    9  184   66    73   27   80    0 1331 1248 1585   44
1305      0    0    0    8  176   66    74   28   81    0 1329 1246 1580   43
1310      0    0    0    7  184   66    74   28   72    0 1331 1255 1588   44
1315      0    0    0    8  198   65    74   28   69    0 1317 1265 1597   44
1320      0    0    0    8  200   65    74   28   71    1 1312 1273 1617   43
1225      0    0    0   12  178   67    72   28   85    1 1334 1302 1661   45

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TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG MI

1230     15  189   62   29   17  184   63   26   19  198   61  27- 399-   95 784
1235     14  190   62   29   16  184   63   27   17  197   61  27- 399-   76 784
1240     12  185   62   29   14  181   64   27   14  197   61  27- 399-   94 78
1245     11  202   62   29   12  194   64   27   13  208   62  27- 399-   97 78
1250     10  197   63   29   11  197   64   28   12  218   62  27- 399-   93 78
1255     13  184   63   29   14  188   64   28   14  206   62  28- 399-   93 784
1300     15  197   62   30   16  193   64   27   16  206   61  27- 399-   92 78
1305     12  188   62   29   14  185   63   27   14  202   61  27- 399-   88 78
1310     11  190   62   29   12  186   63   27   12  204   61  27- 399-   83 78
1315     12  204   62   29   13  202   63   28   12  209   61  27- 399-   84 78
1320     13  208   61   29   14  204   63   28   14  214   61  27- 399-   87 78
1225     16  185   62   29   17  194   63   26   17  200   61  26- 399-   88 784
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TIME     WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1230       0    2-   50   16 182-    5   19  181    3
1235       0    2-   50   15 182-    3   17  180    5
1240       0    2-   50   13 178     0   14  180    9
1245       0    2-   50   12 190-    4   13  189    6
1250       0    2-   50   11 192     0   12  198    9
1255       0    2-   50   13 194-    2   15  188    7
1300       0    3-   50   15 188-    2   16  189    8
1305       0    2-   50   13 194-    4   14  186    4
1310       0    2-   50   11 184-    2   13  185    6
1315       0    2-   50   12 197-    3   12  192    6
1320       0    2-   50   13 198-    2   15  196    5
1225       0    2-   50   16 182-    4   17  184    4

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FIG. 6

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 TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

 1330    233   80  166  272    1    0   66   13  382    3    0
 1235     17  357  150  194    0    0   68    9   56    5    0
 1240    674   72  334  309    1    0   88   15  666   14    0
 1245    317  652  247  234    1    0  148   12  326    5    0
 1250    341    1  226  178    0    0  120   17  433   10    0
 1255    547  292  360  539    0    0  200   22  424   10    0
 1300    358  642  108  330    1    0  230   15  102    8    0
 1305    594  188   78  178    1    0   60   11  394    3    0
 1310    279  506  137  376    0    0   73   13  204    7    0
 1315    286  764  137  295    2    0  395   19  655    6    0
 1320    104  518  129  205    1    0  214   14  590    6    0
 1325    508 6197  216  245    2    0  307   21  494    5    0


 H
 HI VOL = 3

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 023 1355 01/29/75
 TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO    O3
         PPB  PPBBPMH  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

 1350      0    0    0    7  189   64   74   29   65    1 1314 1295 1637   43

 ******************************************************************************
 TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
         MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBP

 1350     11  202   60   30   12  202   61   28   12  212   60   28- 399-  95  792

 ******************************************************************************
 TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
         MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

 1350      0    2-   50   11  198    0   12  194    9

 ******************************************************************************
 TIME   WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
         DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

 1350    878  405  116  174    1    0   21   31   10   17    0


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 ******************************************************************************
 023 1423 01/29/75
 TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4  CO    O3
         PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

 1330      1    0    0    6  194   65   74   30   77    1 1321 1277 1624   43
 1335      0    0    0    7  188   65   74   29   75    1 1309 1273 1627   44
 1340      0*   1    0    7. 190   64   75   28   65    2 1314 1295 1649   45
 1345      0    0    0    7  202   64   74   29   71    2 1321 1297 1649   43
 1350      0    0    0    7  189   64   74   29   65    1 1314 1295 1637   43
 1355      0    0    0    6  190   64   74   29   61    4 1317 1299 1632   43
 1400      0*   2    0    6  197   64   72   29   60    1 1312 1295 1624   42
 1405      1*   3    0    5  202   64   71   29   53    2 1312 1297 1644   42
 1410      4*   5    0    8  194   65   70   30   52    1 1319 1292 1671   43
 1415      5    5    0    7  192   64   71   30   54    2 1329 1297 1695   43
 1420      2    1    0    6  200   64   71   29   59    1 1334 1304 1712   44
 1325      0    0    0    4  194   65   74   29   79    1 1319 1275 1632   44

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FIG. 6

```
TIME    WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRE
        MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MB

1330      8  200   61   30   10  193   62   28   10  212   60   28- 399-  95  783
1335     10  194   61   30   11  193   62   28   10  212   60   28- 399-  95  783
1340     10  200   60   30   12  197   62   28   11  218   60   28- 399-  86  783
1345     10  209   61   31   12  206   62   28   12  221   60   28- 399- 102  783
1350     11  202   60   30   12  202   61   28   12  212   60   28- 399-  95  782
1355     10  198   60   31   12  194   62   28   10  212   60   28- 399-  93  782
1400     10  206   60   30   11  202   61   28   11  218   60   28- 399- 100  782
1405      9  212   60   31   10  212   61   29   10  228   60   28- 399-  89  782
1410     10  198   60   30   12  193   61   29   13  213   60   28- 399-  82  782
1415     10  196   60   31   11  196   62   29   11  212   60   29- 399-  80  782
1420      9  212   60   31   10  209   62   29    9  222   60   29- 399-  81  782
1325      8  192   61   30    9  200   62   28    8  214   60   28- 399-  87  783

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TIME    WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
        MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1330      0   2-   50    9  194    0   10  194   11
1335      0   2-   50   10  189    0   11  193   10
1340      0   2-   50   11  194-   4   11  198    6
1345      0   3-   50   11  202-   3   12  202    6
1350      0   2-   50   11  198    0   12  194    9
1355      0   2-   50   11  192-   6   10  194    4
1400      0   2-   50   11  197-   5   12  200    3
1405      0   3-   50   10  203    0   10  203    8
1410      0   3-   50   11  189-   2   13  194    6
1415      1   3-   50   10  193-   1   11  192    8
1420      0   3-   50    9  204-   5    9  202    4
1325      0   3-   50    8  196-   7    9  197    4

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
TIME   WDV1 WDV2 WDV3 WDV4 HWV5 WVV5 HWV6 VWV6 HWV7 VWV7 RAIN
        DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1330    434  346   85  325    1    0    4   24  496    8    0
1335    345    5  322  257    1    0  135   20  410   10    0
1340    318   32  216  396    1    0    3   12    6    8    0
1345    240  283   54  377    1    0   44   10   98    5    0
1350    878  405  116  174    1    0   21   31   10   17    0
1355    647  137   28  212    2    0   93   13  335    7    0
1400    759  276   93  272    2    0  336   17  228    7    0
1405     17   74  116  342    2    0  102   19  563    9    0
1410    403  226  180  168    1    0   84   13  438    7    0
1415    310  120  362  178    2    0    7   16  501    8    0
1420    290   88   34  333    1    0   32   18  236    7    0
1425    764   93   18  228    2    0  234   16  424    6    0




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023 1523 01/29/75
TIME    NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
        PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1430      2    0    0   10  192   64   71   30   52    1 1330 1321 1672   43
1435     3◆    4    0   10  194   64   70   30   46    0 1331 1317 1668   42
1440      1    1    0   11  188   63   70   28   45    0 1321 1314 1673   42
1445      0    0    0   10  188   64   70   28   42    0 1321◆1326 1700   42
1450     0◆    2    0   11  186   64   70   29   43    2 1326◆1343 1695   41
1455     1◆    3    0    9  194   64   70   29   41    3 1336◆1361 1712   41
1500      0    0    0    9  202   65   70   30   39    3 1351◆1370 1739   41
1505     0◆    1    0   10  196   63   70   29   41    2 1339◆1370 1754   41
1510      0    0    0   10  189   64   70   29   40    3 1342◆1393 1771   41
1515     3◆    4    0   11  188   64   70   30   38    4 1362◆1414 1810   41
1520     0◆    3    0    9  193   64   71   30   35    4 1373◆1424 1817   42
1425      1    1    0    6  182   64   71   30   62    1 1329 1304 1693   43

                                         ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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FIG. 6

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1  DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG  HDG  MBR

1430    14  198   60   31   16  193   61   29   16  203   60   29- 399-  93  792
1435    14  200   60   31   17  197   61   30   18  212   60   30- 399-  74  792
1440    16  200   59   31   18  196   61   29   19  206   59   28- 399-  76  792
1445    14  194   59   30   16  192   60   28   17  206   59   28- 399-  79  792
1450    15  193   59   30   19  189   60   29   19  202   59   29- 399-  71  792
1455    13  204   60   31   16  198   61   30   16  210   59   29- 399-  71  792
1500    12  206   60   30   15  199   61   29   16  213   59   29- 399-  68  792
1505    15  197   59   31   18  190   61   29   19  204   59   28- 399-  70  792
1510    14  198   59   30   17  192   60   29   17  206   59   29- 399-  70  792
1515    14  197   59   31   16  194   61   30   17  206   59   29- 399-  70  792
1520    13  200   59   31   14  194   61   29   16  209   59   29- 399-  69  792
1425     9  189   59   31   11  188   61   29   12  202   60   29- 399-  92  792

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1430     1   3-   48   15 189-    4   16  192    4
1435     1   3-   50   16 192-    3   18  192    4
1440     0   2-   50   17 190-    4   19  188    4
1445     0   2-   50   15 188-    4   17  189    5
1450     0   2-   50   17 185-    5   19  186    3
1455     0   3-   50   15 194-    3   16  193    4
1500     0   2-   50   14 194-    2   16  194    6
1505     0   2-   50   18 186-    5   19  188    3
1510     0   2-   50   16 188-    5   17  188    3
1515     1   3-   49   15 190-    4   17  189    2
1520     1   4-   49   14 190-    2   15  192    4
1425     0   3-   50   10 194-    2   12  185    7

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TIME  WDV1 WDV2 WDV3 WDV4 HWV5 VWV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1430   204   25  237  292    2   18  224   10   92    5    0
1435   455    2   54  299    1    0   76    8   56    2    0
1440   370  253  192  421    3    0  241   11   72    5    0
1445   334  191  291  342    1    0  257   13  128    4    0
1450   695  267   12  196    1    0  212    8  421    2    0
1455   342   74  242  141    1    0  222   10   17    4    0
1500    70   77  200  345    3    0   50   10   30    6    0
1505   490  124  212  305    2    0   13   10  233    3    0
1510    20  293  190  228    1    0  138   12  478    5    0
1515   230  199  234  118    3   18  182    9  342    3    0
1520   138  142  164  325    1   18  272   10  160    4    0
1525   539  144  136  265    1    0  185   12  396    3    0

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023 1623 01/29/75
TIME   NOX   NO  SO2  WS1  WD1  RH1  TIN TMP1  PYR  H2S  THC  CH4   CO   O3
       PPB  PPB  PPB  MPH  DEG  PCT  DGF  DGF  CCM  PPB  PPB  PPB  PPB  PPB

1530     1    0    0    9  192   64   70   29   34    1 1358♦1383 1764   40
1535     1    1    0   10  200   64   70   29   33    2 1368♦1400 1791   41
1540     0    0    0    9  204   64   71   29   28    3 1365♦1387 1772   40
1545     3    0    4    7  204   65   71   30   28    8 1378♦1395 1752   40
1550     2    1    5    5  197   63   70   29   26    8 1361♦1378 1737   39
1555     3    0    4    4  204   64   71   30   27    9 1375♦1395 1766   40
1600     1    0    3    3  197   64   71   29   26    7 1365♦1407 1792   39
1605     0    0    3    6  232   64   71   28   24    6 1368♦1407 1772   38
1610     0    0    4    3  216   64   71   29   26    8 1363♦1392 1751   39
1615     0    0    5    3  237   64   71   29   19    8 1368 1331 1712   40
1620     1    0    5    3  240   64   71   30   21    8 1373 1390 1669   39
1525     0♦   1    0    9  194   64   70   28   28    1 1351♦1392 1785   40

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FIG. 6

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TIME   WS2  WD2  RH2 TMP2  WS3  WD3  RH3 TMP3  WS4  WD4  RH4 TMP4  DT1   DT2 PRES
       MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  MPH  DEG  PCT  DGF  HDG   HDG  MIB

1530    12  200   59   31   14  198   61   29   16  210   59   29- 399-   67  792
1535    14  208   60   31   17  204   61   30   17  214   59   29- 399-   70  792
1540    13  209   59   31   15  204   60   29   15  213   59   29- 399-   72  792
1545    10  209   59   31   12  204   61   29   13  213   59   29- 399-   64  792
1550     9  210   60   31   10  208   61   29   10  219   59   28- 399-   64  792
1555     8  214   60   31   10  209   62   30    9  216   60   29- 399-   61  792
1600     6  210   60   31    8  206   61   29    8  219   60   29- 399-   72  792
1605    10  237   59   31   11  230   61   29   10  236   60   29- 399-   69  792
1610     6  222   59   31    8  214   62   30    7  226   60   29- 399-   73  792
1615     5  241   59   31    6  234   61   30    6  232   60   29- 399-   68  792
1620     6  241   59   31    8  232   62   30    7  242   60   30- 399-   69  792
1525    13  194   59   31   15  194   61   30   16  208   59   29- 399-   68  792

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TIME   WS5 HWD5 VWD5  WS6 HWD6 VWD6  WS7 HWD7 VWD7
       MPH  DEG  DEG  MPH  DEG  DEG  MPH  DEG  DEG

1530     0   2-   50   14 194-    3   16  192    3
1535     0   3-   50   16 198-    4   17  196    3
1540     0   3-   50   14 197-    4   15  194    3
1545     I   3-   50   11 198-    2   13  194    5
1550     0   3-   50   10 200-    5   11  202    5
1555     1   4-   50    9 202-    4    9  198    5
1600     0   3-   50    7 202-    5    9  200    5
1605     0   2-   50   10 219-    5   10  216    5
1610     0   3-   50    7 208-    3    7  206    7
1615     0   3-   50    6 226-    1    6  209    6
1620     0   3-   50    8 224-    6    7  219    5
1525     0   3-   50   15 188-    4   16  190    4

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TIME  WDV1 WDV2 WDV3 WDV4 HWV5 WVV5 HWV6 VWV6 HWV7 VWV7 RAIN
       DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  DEG  HDT

1530   384  200  266  132    2    0  102   10   70    6    0
1535    70  186   62  277    3    0   28    7  129    2    0
1540    70    2   36  241    1    0  212    8  224    3    0
1545   326   12  136  216    2    0  200   12  294    5    0
1550   103  168  142  360    2    0  277    9  236    6    0
1555   443  468  496  353    1    0  425   12  345    5    0
1600   527  236  394  516    1    0   93   11  630    5    0
1605   244   78   22  228    3    0  247   12  407   10    0
1610   122  196  242  361    1    0  290   13  146    8    0
1615   150  285  120  584    1    0  157   24  213   10    0
1620    78  289   56  230    2    0  129   11  154    5    0
1625    12  441  328  360    2    0  114   14  317    4    0
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FIG. 7 TRAILER 024 HARDCOPY

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OUTSIDE LIGHT ON - 1329



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024 1331 01/27/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1325     CAL     1   318    72    75    29   CAL   795  1012     0



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024 1337 01/27/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1330     CAL     1   304    72    75    29   CAL   795   623     0

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024 1423 01/27/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1325     CAL     1   318    72    75    29   CAL   795  1012     0
1330     CAL     1   304    72    75    29   CAL   795   623     0
1335     CAL     2   292    72    75    29   CAL   795   542     0
1340       4     1   290    71    75    29     0   795  1875     0
1345       4     2   253    71    75    29     0   795   166     0
1350       5     1   254    71    75    30     0   795  1445     0
1355       4     3   248    70    75    30     0   795   458     0
1400       3     2   254    70    75    30     0   795   278     0
1405       4     0   329    70    75    30     0   795  3160     0
1410       4     2   240    70    76    31     0   795   482     0
1415       5     1   300    70    76    31     0   795  1770     0
1310       0     1   313    74    75    28     0   795  1102     0



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FIG. 7

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024 1523 01/27/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1420      4     2   245    69    76    31     0   795   963     0
1425      3     3   280    69    76    31     0   795   406     0
1430      4     2   299    69    76    31     0   795   413     0
1435      4     4   257    69    76    31     0   794   199     0
1440      5     3   254    69    76    31     0   795   156     0
1445      4     3   256    69    76    31     0   795   268     0
1450      3     3   259    69    76    31     0   795   370     0
1455      4     3   263    69    76    31     0   795   247     0
1500      4     4   242    70    76    31     0   795   306     0
1505      4     4   251    70    76    31     0   795   329     0
1510      4     5   250    70    76    31     0   795    78     0
1515      3     5   257    70    76    31     0   795   141     0
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024 1623 01/27/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1520      4     5   253    70    76    31     0   794   181     0
1525      5     5   262    70    76    31     0   795   180     0
1530      5     5   254    70    76    31     0   795   213     0
1535      4     6   250    70    76    31     0   794   176     0
1540      3     6   252    70    76    31     0   794   251     0
1545      4     5   251    71    76    31     0   795   334     0
1550      5     6   254    70    76    31     0   794   158     0
1555      5     6   257    70    76    31     0   795   200     0
1600      4     5   248    70    76    31     0   795   273     0
1605      3     6   250    71    76    31     0   795    30     0
1610      4     8   245    71    76    31     0   795   156     0
1615      4     9   250    71    76    30     0   795   288     0
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024 1723 01/27/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1620      5     7   246    71    76    30     0   795   126     0
1625      5     6   242    72    76    30     0   795   104     0
1630      3     5   251    72    76    30     0   795   148     0
1635      3     6   256    72    76    30     0   795   245     0
1640      4     6   246    73    76    30     0   794   101     0
1645      4     5   245    74    76    29     0   795   218     0
1650      5     5   236    74    76    29     0   794   238     0
1655      5     6   236    75    76    29     0   795   208     0
1700      3     6   236    75    76    28     0   795   206     0
1705      3     5   232    76    76    28     0   795   259     0
1710      4     5   232    76    76    28     0   794    69     0
1715      4     5   228    77    76    28     0   795    78     0
```

FIG. 7

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1823 01/27/75
TIME    SO2   WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT   DGF  DGF  PPB  MBR  DEG  HDT

1720      5    6  232   77   76   28    0  795  141    0
1725      5    6  230   78   76   27    0  795  226    0
1730      4    5  228   78   76   27    0  794   58    0
1735      3    5  232   79   76   27    0  795  232    0
1740      3    4  230   79   76   27    0  795  112    0
1745      4    4  232   79   76   27    0  795   78    0
1750      4    5  232   80   76   27    0  795   98    0
1755      5    5  232   80   76   27    0  795  169    0
1800      5    5  234   81   76   26    0  795  271    0
1805      4    5  228   82   76   26    0  794  243    0
1810      3    5  230   83   76   26    0  795  125    0
1815      3    4  220   84   76   26    0  795  197    0
```

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1923 01/27/75
TIME    SO2   WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT   DGF  DGF  PPB  MBR  DEG  HDT

1820      4    4  214   84   76   26    0  795  162    0
1825      4    5  216   85   76   25    0  795  149    0
1830      5    4  221   86   76   25    0  794  283    0
1835      5    6  226   86   76   25    0  795   74    0
1840      5    5  226   86   76   25    0  795  270    0
1845      4    4  206   86   76   25    0  795  286    0
1850      3    4  204   86   76   25    0  794   74    0
1855      3    4  221   86   76   25    0  795  138    0
1900      4    5  226   86   76   25    0  795  236    0
1905      4    5  222   86   76   25    0  795   66    0
1910      5    3  218   87   76   25    0  794  244    0
1915      5    3  224   87   76   25    0  795  212    0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 2023 01/27/75
TIME    SO2   WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT   DGF  DGF  PPB  MBR  DEG  HDT

1920      5    3  222   87   76   25    0  795   58    0
1925      5    4  228   87   76   25    0  794  216    0
1930      3    5  230   87   76   24    0  794  226    0
1935      3    5  240   87   76   24    0  795  259    0
1940      3    6  249   88   76   24    0  794  198    0
1945      4    5  250   88   76   24    0  795  170    0
1950      5    4  251   89   76   24    0  795  221    0
1955      5    3  243   89   76   24    0  795  168    0
2000      5    3  232   89   76   24    0  795   90    0
2005      5    2  228   89   76   24    0  795  173    0
2010      4    4  241   90   76   24    0  795  236    0
2015      3    3  238   90   76   24    0  795  148    0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆           ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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FIG. 7

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 2123 01/27/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

2020      3    4  236   90   76   24    0  795  174    0
2025      4    5  243   90   76   24    0  794  249    0
2030      4    5  249   90   75   24    0  795  243    0
2035      5    4  246   90   75   23    0  794  123    0
2040      5    4  246   90   76   23    0  794  117    0
2045      5    4  243   90   76   23    0  795  182    0
2050      5    2  250   90   76   23    0  795  322    0
2055      4    4  243   90   76   23    0  795  258    0
2100      3    4  242   90   75   23    0  795  104    0
2105      3    3  242   90   75   23    0  795  230    0
2110      4    3  242   90   75   23    0  795  123    0
2115      4    1  238   89   75   23    0  795 1233    0

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 2223 01/27/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

2120      5    0   38   89   75   24    0  795 2614    0
2125      5    1  208   89   75   24    0  795 2311    0
2130      5    0  350   89   76   24    0  794 1049    0
2135      5    1  313   89   76   23    0  794  935    0
2140      3    2  283   90   75   23    0  795  213    0
2145      3    3  274   90   75   23    0  795  313    0
2150      3    4  254   91   75   23    0  795  138    0
2155      4    2  230   90   75   23    0  795  872    0
2200      4    4  165   84   75   30    0  795 1254    0
2205      4    5  158   77   75   33    0  795 1594    0
2210      5   10  138   73   75   36    0  795  286    0
2215      5   11  146   69   75   39    0  794 1306    0

◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 2323 01/27/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

2220      5    2  236   71   75   31    0  794 1629    0
2225      3    4  257   77   75   27    0  795  531    0
2230      3    4  259   83   75   25    0  795  346    0
2235      3    5  260   87   75   24    0  795  150    0
2240      4    6  251   90   75   23    0  795  120    0
2245      4    4  251   91   75   23    0  795  288    0
2250      5    7  250   92   75   23    0  795  245    0
2255      5    8  254   92   75   23    0  795  138    0
2300      4    9  258   92   75   23    0  795   98    0
2305      3    9  260   92   75   22    0  795  263    0
2310      3    8  263   93   75   22    0  795  230    0
2315      3    3  240   93   75   22    0  795  122    0

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FIG. 7

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                    DAILY SUMMARY FOR TRAILER 024   01/27/75

INSTANTANEOUS MAXIMUM VALUES
 SO2       930     TIME 1328
 WS         24     TIME 2217
 H2S      1000     TIME 1328


MAXIMUM FIVE MINUTE AVERAGES
 SO2         4     TIME 1350
 WS         11     TIME 2215
 WD        349     TIME 2130
 RH         93     TIME 2345
 TIN        75     TIME 1550
TOUT        38     TIME 2215
 H2S         0     TIME 1340
PRES       795     TIME 1715


30 MINUTE AVERAGES

TIME     SO2  WS   H2S
         PPB  MPH  PPB
0000
0030
0100
0130
0200
0230
0300
0330
0400
0430
0500
0530
0600
0630
0700
0730
0800
0830
0900
0930
1000
1030
1100
1130
1200
1230
1300    CAL     0  CAL
1330      4     1    0
1400      3     1    0
1430      3     3    0
1500      4     4    0
1530      4     5    0
1600      4     6    0
1630      4     5    0
1700      3     5    0
1730      3     4    0
1800      3     4    0
1830      4     4    0
1900      4     4    0
1930      3     4    0
2000      4     3    0
2030      4     3    0
2100      3     2    0
2130      3     2    0
2200      4     6    0
2230      3     5    0
2300      3     6    0
2330      4     2    0


DAILY AVERAGES
 SO2         4
 WS          4
 WD        237
 RH         80
 TIN        75
TOUT        26
 H2S         0
PRES       794

RAIN         0

LAST CAL
 SO2 0768  22/21      INPUT PPB:   114
     LAST ZERO:   376      NEW ZERO:        0  LAST SPAN:    376   NEW SPAN:    114
 H2S 0263  -8 -6      INPUT PPB:   114
     LAST ZERO:       0    NEW ZERO:        0  LAST SPAN:      5   NEW SPAN:    114
```

FIG. 7

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0023 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB  MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

2320      4    4   241    93    75    22     0   795   675     0
2325      4    3   196    93    75    22     0   795   760     0
2330      5    2   156    94    75    23     0   795  1523     0
2335      5    3   114    93    75    23     0   794  2632     0
2340      5    4    74    92    75    24     0   794   823     0
2345      4    2   112    94    75    27     0   795   521     0
2350      3    1   345    96    75    29     0   795  2888     0
2355      3    1   132    97    75    29     0   795  5609     0
0000      3    1   334    99    75    28     0   794  1937     0
0005      4    3   304    97    75    24     0   795   222     0
0010      4    3   309    98    75    23     0   795    70     0
0015      5    3   283    99    75    23     0   795   132     0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0123 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB  MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0020      5    2   271    99    75    23     0   794   110     0
0025      4    1   293    99    75    25     0   794  3947     0
0030      3    1   149    98    75    31     0   795  2183     0
0035      3    5   206    94    75    31     0   795  1318     0
0040      3    4   247    96    75    26     0   795   104     0
0045      4    6   244    98    75    25     0   795   198     0
0050      4    5   237    99    75    25     0   795    26     0
0055      5    4   252   100    75    24     0   795   240     0
0100      4    5   269   100    75    23     0   795    48     0
0105      4    5   274   100    75    22     0   795    48     0
0110      2    3   252   100    75    23     0   795  1475     0
0115      3    0    22   100    75    23     0   795  1345     0
```

FIG. 7

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0223 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0120      3     1    74   100    75    24     0   795   585     0
0125      4     2    78   100    75    23     0   795   580     0
0130      4     2    84   100    75    26     0   795   537     0
0135      4     2    64   100    75    28     0   795    42     0
0140      4     1    56   100    75    30     0   795   410     0
0145      4     1   176   100    75    31     0   795   752     0
0150      2     3   208    97    75    30     0   795  1897     0
0155      2     7   268    93    75    25     0   795   161     0
0200      3     6   224    93    75    27     0   795   760     0
0205      3     4   228    95    75    28     0   795   120     0
0210      4     2   237    96    75    28     0   794  4044     0
0215      4     4   249    96    75    27     0   795  1937     0
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0323 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0220      4     3   271    99    75    23     0   795   332     0
0225      4     5   280   100    75    23     0   794    92     0
0230      3     7   268   100    75    22     0   794   135     0
0235      2    11   259   100    75    21     0   794   124     0
0240      3     8   264   100    75    21     0   795   369     0
0245      3     5   274   100    75    21     0   795   206     0
0250      4     3   262   100    75    21     0   794   493     0
0255      4     2   226   100    75    23     0   795   795     0
0300      4     2   178   100    75    26     0   795  1338     0
0305      4     2   176   100    75    29     0   795  1415     1
0310      3     9   158    99    75    32     0   795   864     0
0315      2    14   164    92    75    36     0   795   387     0
```

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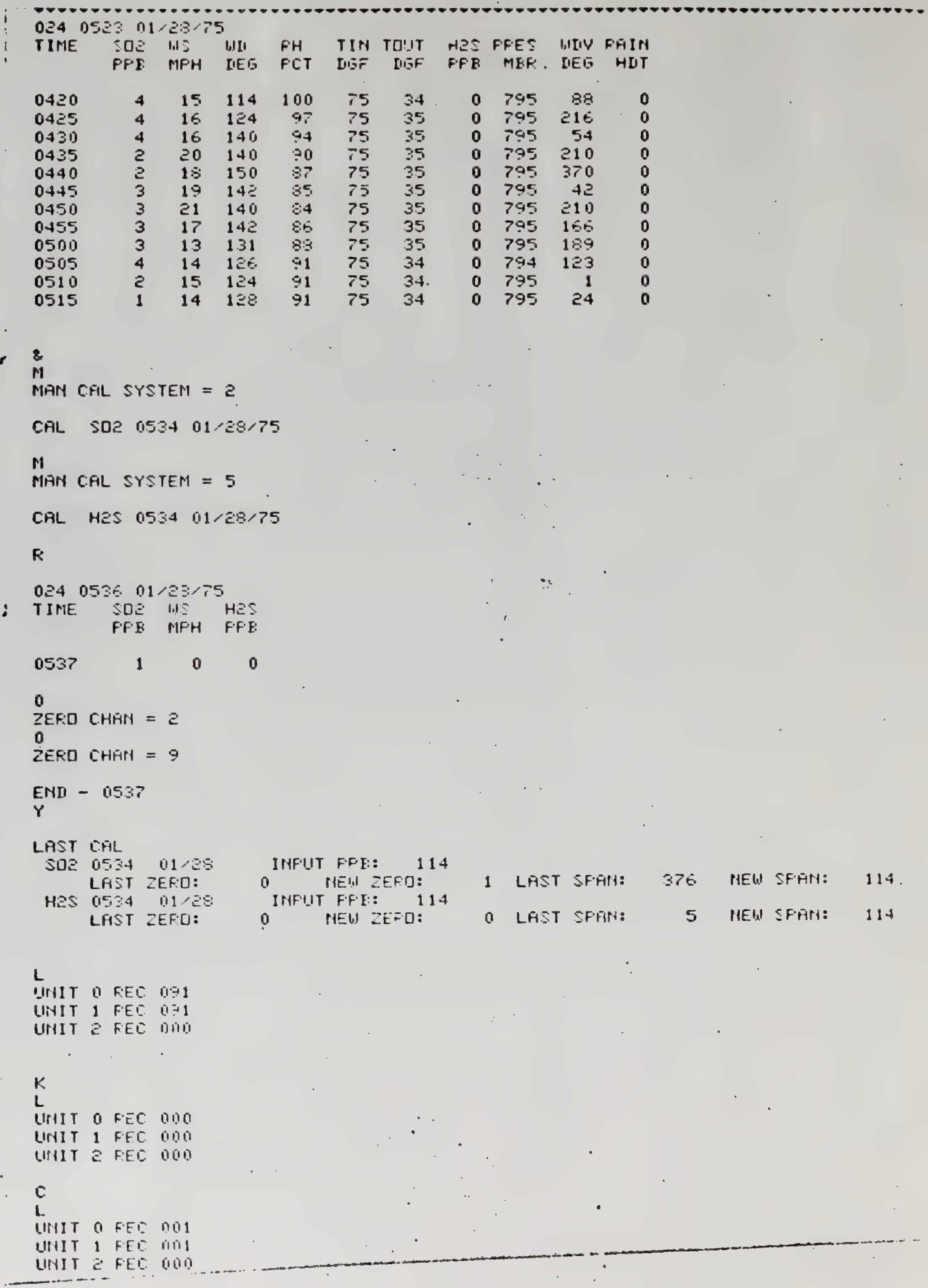
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0423 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0320      2    11   169    89    75    36     0   795   948     0
0325      3    12   172    86    75    36     0   795   799     0
0330      3    10   152    84    75    36     0   794   262     0
0335      4    12   148    83    75    36     0   795   174     0
0340      4    17   138    84    75    36     0   795    25     0
0345      4    18   130    91    75    35     0   795   182     0
0350      3    17   129    98    75    34     0   794   133     0
0355      2    15   130   100    75    34     0   795   236     0
0400      2    14   137   100    75    34     0   795    46     0
0405      2    12   131   100    75    34     0   795     1     0
0410      3    10   125   100    75    34     0   795   320     0
0415      3    14   116   100    75    34     0   795    84     1
```

FIG. 7



```
024 0523 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR.  DEG   HDT

0420      4    15   114   100    75    34     0   795    88     0
0425      4    16   124    97    75    35     0   795   216     0
0430      4    16   140    94    75    35     0   795    54     0
0435      2    20   140    90    75    35     0   795   210     0
0440      2    18   150    87    75    35     0   795   370     0
0445      3    19   142    85    75    35     0   795    42     0
0450      3    21   140    84    75    35     0   795   210     0
0455      3    17   142    86    75    35     0   795   166     0
0500      3    13   131    88    75    35     0   795   189     0
0505      4    14   126    91    75    34     0   794   123     0
0510      2    15   124    91    75    34.    0   795     1     0
0515      1    14   128    91    75    34     0   795    24     0


&
M
MAN CAL SYSTEM = 2

CAL  SO2 0534 01/28/75

M
MAN CAL SYSTEM = 5

CAL  H2S 0534 01/28/75

R

024 0536 01/28/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0537      1     0     0

0
ZERO CHAN = 2
0
ZERO CHAN = 9

END - 0537
Y

LAST CAL
 SO2 0534  01/28      INPUT PPB:   114
     LAST ZERO:      0      NEW ZERO:      1  LAST SPAN:   376   NEW SPAN:   114.
 H2S 0534  01/28      INPUT PPB:   114
     LAST ZERO:      0      NEW ZERO:      0  LAST SPAN:     5   NEW SPAN:   114


L
UNIT 0 REC 091
UNIT 1 REC 091
UNIT 2 REC 000


K
L
UNIT 0 REC 000
UNIT 1 REC 000
UNIT 2 REC 000

C
L
UNIT 0 REC 001
UNIT 1 REC 001
UNIT 2 REC 000
```

FIG. 7

```
C
L
UNIT 0 REC 002
UNIT 1 REC 002
UNIT 2 REC 000

K
Q
REC0 = 000
REC1 = 000
REC2 = 000
L
UNIT 0 REC 000
UNIT 1 REC 000
UNIT 2 REC 000

C
L
UNIT 0 REC 001
UNIT 1 REC 001
UNIT 2 REC 000


&

L
UNIT 0 REC 002
UNIT 1 REC 002
UNIT 2 REC 000

H
HI VOL = 2

L
UNIT 0 REC 002
UNIT 1 REC 002
UNIT 2 REC 000

5

024 0610 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0605      2    20   126    91    75    34     0   795   178     0





◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0623 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0520      2    13   123    91    75    34     0   795    66     0
0525      3    14   124    93    75    34     0   795   102     0
0530      3    13   121    95    75    34     0   795   113     0
0535    CAL    13   113    97    75    33   CAL   795    20     0
0540      2    15   108    97    75    34     0   795   173     0
0545      2    16   114    92    75    34     0   795   120     0
0550      2    14   114    92    75    34     0   795    18     0
0555      2    16   109    93    75    34     0   795    35     0
0600      2    17   118    93    75    34     0   795   110     0
0605      2    20   126    91    75    34     0   795   178     0
0610      2    22   136    90    75    34     0   794    18     0
0615      3    24   138    89    75    33     0   795   286     0


END - 0634
```

Marlatt Temp. Inversion Dept. (Ref 9)

FIG. 7

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024 0723 01/28/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

0620      3   24  137   90   75   33    0  795   18    0
0625      3   19  134   92   75   32    0  795  247    0
0630      4   18  131   92   75   32    0  795    9    0
0635      4   15  128   93   75   32    0  794   45    0
0640      3   12  131   95   75   32    0  795   44    0
0645      2   10  125   96   75   32    0  795  158    0
0650      2   11  125   95   75   32    0  795  102    0
0655      3   11  138   95   75   32    0  795  291    0
0700      3   13  152   93   75   32    0  795  773    0
0705      3   16  166   86   75   33    0  795  824    0
0710      4   17  169   82   75   33    0  795  931    0
0715      4   15  180   80   75   33    0  795 1377    0
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024 0823 01/28/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

0720      2   14  181   79   75   33    0  795 1661    0
0725      2   16  154   74   75   34    0  794  362    0
0730      2   15  157   72   75   35    0  795  550    0
0735      3   18  144   69   75   35    0  795   85    0
0740      3   21  165   69   75   35    0  795  707    0
0745      3   18  188   71   75   34    0  795 1078    0
0750      4   19  172   74   75   34    0  795 1082    0
0755      2   22  154   77   75   34    0  795  482    0
0800      1   18  149   81   75   33    0  794  407    0
0805      1   16  135   84   75   33    0  794  114    0
0810      2   16  142   90   75   32    0  795  140    0
0815      3   10  134   95   75   31    0  795  192    0
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024 0923 01/28/75
TIME    SO2  WS   WD   RH   TIN TOUT  H2S PRES  WDV RAIN
        PPB  MPH  DEG  PCT  DGF  DGF  PPB  MBR  DEG  HDT

0820      3    8  128   97   75   31    0  795   66    0
0825      3   10  141   97   75   31    0  795  426    0
0830      3   12  146   92   76   32    0  794  427    0
0835      1   20  142   86   76   33    0  795   56    0
0840      1   19  142   85   75   33    0  794  222    0
0845      2   15  152   84   75   33    0  795  236    0
0850      2   13  152   83   75   33    0  794  313    0
0855      3   13  178   81   75   34    0  794  826    0
0900      3   13  182   79   76   34    0  795 1071    0
0905      2   12  194   81   76   34    0  795  881    0
0910      1   11  202   82   75   34    0  794  346    0
0915      1   16  251   85   75   31    0  795   86    0
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FIG. 7

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024 1023 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0920      2    18   264    93    75    26     0   795    50     0
0925      2    17   268    98    75    25     0   795   200     0
0930      3    15   270   100    75    25     0   795   259     0
0935      3    22   252   100    76    25     0   795   150     0
0940      3    21   258   100    76    24     0   794   112     1
0945      1    18   262   100    76    24     0   794   330     1
0950      1    15   260   100    75    23     0   795   196     1
0955      2    13   261   100    75    23     0   795    82     0
1000      2    11   270   100    75    23     0   795   106     0
1005      3     9   270   100    75    23     0   795   102     1
1010      3     9   252   100    75    24     0   795   120     0
1015      4    11   240   100    76    24     0   795    58     0


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024 1123 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1020      3    11   241   100    76    23     0   794   149     0
1025      2    13   240   100    76    23     0   794    33     1
1030      2    10   240   100    75    23     0   795    61     0
1035      2     7   230   100    75    24     0   795   198     0
1040      3     6   233   100    75    24     0   795    50     0
1045      4     3   252   100    75    24     0   795    33     1
1050      4     3   250   100    75    24     0   795    85     0
1055      4     3   260   100    76    24     0   795   245     0
1100      3     2   246   100    75    24     0   795    28     0
1105      3     2   206   100    75    24     0   795    42     0
1110      3     4   193   100    75    24     0   795   192     0
1115      4     5   194   100    75    24     0   795   486     0


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024 1223 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1120      4     4   192   100    75    24     0   795   189     1
1125      4     4   180   100    75    24     0   795   542     0
1130      4     5   193   100    75    24     0   794   764     0
1135      4     5   206   100    76    24     0   795   132     0
1140      3     9   224   100    76    24     0   795   460     1
1145      3    10   241    98    75    23     0   795    11     0
1150      3     5   259    99    76    23     0   794   190     0
1155      4     8   268   100    75    23     0   795    60     1
1200      4     9   248   100    75    23     0   795    42     0
1205      4    11   250   100    76    23     0   795    84     0
1210      4    11   251   100    76    23     0   795   197     1
1215      3    20   250   100    76    22     0   795    38     1


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FIG. 7

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024 1323 01/28/75
TIME     SO2   WS    WD    RH     TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT    DGF   DGF   PPB   MBR   DEG   HDT

1220       2    18   242   100    75    21     0   795   173     0
1225       3    23   241   100    75    21     0   795   176     1
1230       3    15   243   100    75    20     0   794   118     1
1235       4    20   243   100    76    20     0   794   173     0
1240       4    20   238   100    75    20     0   794   226     0
1245       4    19   234   100    76    20     0   795   126     1
1250       3    17   234   100    76    20     0   795   112     0
1255       2    13   232   100    75    19     0   795   189     0
1300       3    10   238   100    75    19     0   795   297     1
1305       3     9   250   100    75    20     0   795    97     0
1310       4     7   240   100    75    20     0   795   198     0
1315       4    12   230   100    75    20     0   795    85     1
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024 1423 01/28/75
TIME     SO2   WS    WD    RH     TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT    DGF   DGF   PPB   MBR   DEG   HDT

1320       4    15   230   100    75    20     0   795     2     0
1325       4    15   234   100    75    20     0   795   170     1
1330       3    14   228   100    75    19     0   795   150     0
1335       3    10   228   100    75    19     0   795   152     0
1340       3    11   228   100    75    20     0   795   264     0
1345       4     9   228    99    75    20     0   795   122     0
1350       4     8   230    98    75    20     0   795   189     0
1355       4     7   240    97    75    20     0   795   406     0
1400       4     7   259    97    75    20     0   795   130     0
1405       4     5   257    95    75    20     0   795     4     0
1410       3     3   248    96    75    20     0   795   416     0
1415       3     2     9    95    75    20     0   795  3246     0
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024 1523 01/28/75
TIME     SO2   WS    WD    RH     TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT    DGF   DGF   PPB   MBR   DEG   HDT

1420       3     3   268    95    75    20     0   795   370     0
1425       4     6   237    94    75    20     0   795   410     1
1430       5    10   216    87    75    20     0   795   137     0
1435       5    10   234    84    75    20     0   794   197     0
1440       5     8   230    86    75    20     0   795   160     0
1445       4     7   240    88    75    19     0   795   270     0
1450       4     9   263    90    75    19     0   795   133     0
1455       4    12   269    93    75    18     0   795   144     0
1500       4    11   263    95    75    17     0   795   134     0
1505       5    15   256    96    75    17     0   795   173     0
1510       5    15   256    97    75    17     0   795   110     0
1515       6     9   259    97    75    17     0   796   214     0
```

FIG. 7

```
024 1623 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1520      6     6   248    98    75    17     0   795   374     0
1525      4     6   234    97    75    18     0   795   312     0
1530      4     9   222    95    75    18     0   795   364     0
1535      5    10   228    89    75    19     0   795    89     0
1540      5     7   222    87    75    19     0   795   284     0
1545      5     6   219    86    75    19     0   795   290     0
1550      6     5   226    85    75    19     0   795   236     0
1555      6     8   226    82    75    20     0   795    88     0
1600      5     8   236    80    75    20     0   794   274     0
1605      4    14   243    76    75    20     0   795   502     0
1610      4    13   244    73    75    21     0   795   204     0
1615      5     9   243    72    75    21     0   795   124     0
```

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024 1723 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1620      5    12   245    70    75    21     0   795   184     0
1625      5    13   250    69    75    20     0   795    74     0
1630      5    11   245    68    75    20     0   795   242     0
1635      6    10   248    68    75    20     0   795   149     0
1640      5    10   246    67    75    20     0   795   164     0
1645      4     9   250    67    75    19     0   795   121     0
1650      4     9   250    68    75    19     0   795   109     0
1655      4     8   252    68    75    18     0   795   132     0
1700      5     9   252    68    75    18     0   795    98     0
1705      5     8   249    69    75    18     0   794   106     0
1710      5     8   248    70    75    17     0   794   145     0
1715      5     8   246    70    75    17     0   795   224     0
```

```
024 1823 01/28/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1720      4     6   247    71    75    16     0   795    70     0
1725      4     6   247    72    75    16     0   795   204     0
1730      4     5   254    73    75    16     0   795    40     0
1735      5     4   253    74    75    15     0   795   186     0
1740      5     4   254    75    75    15     0   795   204     0
1745      5     3   249    75    75    15     0   795   157     0
1750      6     3   245    76    75    15     0   795   190     0
1755      5     3   249    76    75    15     0   795    69     0
1800      4     3   261    77    75    14     0   795   112     0
1805      4     2   249    79    75    13     0   795    50     0
1810      4     3   228    79    75    14     0   795   206     0
1815      5     4   190    78    75    14     0   795   672     0
```

FIG. 7

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024 1923 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1820       5     3   194    74    75    14     0   795  1135     0
1825       5     5   185    71    75    13     0   795   429     0
1830       5     5   184    69    75    14     0   795   317     0
1835       5     5   186    67    75    14     0   795    73     0
1840       6     5   186    66    75    14     0   795   136     0
1945       6     3   218    65    75    13     0   795  1839     0
1850       6     0   320    65    75    11     0   795   995     0
1855       6     3   329    67    75    11     0   795    96     0
1900       4     4   342    68    75    12     0   795   170     0
1905       4     4   358    71    75    10     0   795    74     0
1910       4     3   345    73    75    11     0   795    82     0
1915       5     1   354    75    75    10     0   795   274     0
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024 2023 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1920       5     0    18    77    75    10     0   795   332     0
1925       5     2    72    79    75    10     0   795   438     0
1930       5     2    80    80    75    10     0   795    80     0
1935       6     2    60    80    75     9     0   795    85     0
1940       6     3    60    80    75     9     0   795     3     0
1945       6     3    82    80    75     9     0   795    10     0
1950       6     3   100    78    75     9     0   795   120     0
1955       6     3   102    76    75     9     0   795     6     0
2000       6     3    98    73    75    10     0   795    74     0
2005       6     4   106    71    75    10     0   795    11     0
2010       6     5   112    70    75    10     0   795    46     0
2015       6     5   104    68    75    10     0   794    12     0
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024 2123 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

2020       6     6   112    67    75     8     0   795     3     0
2025       6     7   116    67    75     8     0   795    11     0
2030       6     7   118    66    75     8     0   794    68     0
2035       6     5   106    65    75     8     0   795   131     0
2040       6     4   108    66    75     7     0   795    39     0
2045       6     5   112    66    75     7     0   795    28     0
2050       6     9   136    66    75     8     0   794    60     0
2055       6     7   128    63    75    13     0   795   133     0
2100       6     6   132    61    75    13     0   794  1428     0
2105       6     2     2    61    75     5     0   795  1008     0
2110       6     3    42    63    75     2     0   794    58     0
2115       6     5    69    65    75     0     0   795   297     0

177774 CAS 1 - 2209
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024 2223 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
```

FIG. 7

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024 2223 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

2120       6     3    84    67    75     1     0   795   168     0
2125       6     2    80    68    75     1     0   795    32     0
2130       6     2    76    70    75     1     0   795   221     0
2135       6     4    58    72    75-    1     0   795    56     0
2140       6     3    69    73    75-    2     0   795   106     0
2145       6     5    69    75    75-    1     0   795     7     0
2150       6     6    69    76    75-    2     0   795    66     0
2155       6     7    61    77    75-    2     0   795    26     0
2200       6     7    60    78    75     0     0   795    62     0
2205       6     7    72    78    75     1     0   795    34     0
2210       6     7    78    78    75     1     0   795    15     0
2215       6     6    64    78    75     1     0   794    35     0

114101 CAS 1 - 2300
134100 CAS 1 - 2300
104301 CAS 1 - 2300
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024 2323 01/28/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

2220       6     6    70    79    75     0     0   794    22     0
2225       6     6    88    79    75     1     0   794    56     0
2230       5     5    97    79    75     1     0   795    70     0
2235       5     4    93    79    75     2     0   794    15     0
2240       6     3    92    78    75     2     0   795     6     0
2245       6     4    78    79    75     2     0   795    34     0
2250       6     5    82    79    75     2     0   794    78     0
2255       6     6    85    80    75     2     0   795    32     0
2300       6     5    92    80    75     2     0   794    42     0
2305       6     5    93    81    75     2     0   795    30     0
2310       6     5   102    81    75     2     0   795    58     0
2315       6     5    97    81    75     3     0   795   104     0
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                        DAILY SUMMARY FOR TRAILER 024    01/28/75

INSTANTANEOUS MAXIMUM VALUES
 SO2          7     TIME 2318
 WS          37     TIME 0619
 H2S          0     TIME 0006


MAXIMUM FIVE MINUTE AVERAGES
 SO2          6     TIME 2325
 WS          24     TIME 0620
 WD         357     TIME 1905
 RH         100     TIME 0105
 TIN         75     TIME 0830
TOUT         36     TIME 0325
 H2S          0     TIME 0005
PRES        795     TIME 1515
```

FIG. 7

```
30 MINUTE AVERAGES

TIME   SO2   WS   H2S
       PPB   MPH  PPB
0000    4     2    0
0030    3     4    0
0100    3     2    0
0130    3     2    0
0200    3     4    0
0230    3     5    0
0300    2     8    0
0330    3    14    0
0400    2    13    0
0430    2    18    0
0500    2    13    0
0530    2    14    0
0600    2    21    0
0630    2    12    0
0700    2    15    0
0730    2    18    0
0800    2    13    0
0830    2    15    0
0900    1    14    0
0930    2    17    0
1000    2    10    0
1030    3     5    0
1100    3     3    0
1130    3     7    0
1200    3    15    0
1230    3    17    0
1300    3    11    0
1330    3     9    0
1400    3     4    0
1430    4     9    0
1500    5    10    0
1530    5     7    0
1600    4    11    0
1630    4     9    0
1700    4     7    0
1730    5     3    0
1800    4     3    0
1830    5     3    0
1900    4     2    0
1930    5     2    0
2000    5     4    0
2030    6     6    0
2100    6     3    0
2130    6     4    0
2200    6     6    0
2230    5     4    0
2300    6     5    0
2330    6     6    0


DAILY AVERAGES
 SO2        3
 WS         9
 WD       183
 RH        87
 TIN       75
TOUT       21
 H2S        0
PRES      794

RAIN       20

LAST CAL
 SO2 0534  01/28      INPUT PPB:    114
     LAST ZERO:      0      NEW ZERO:       1  LAST SPAN:   376   NEW SPAN:   114
 H2S 0534  01/28      INPUT PPB:    114
     LAST ZERO:      0      NEW ZERO:       0  LAST SPAN:     5   NEW SPAN:   114

******************************************************************************



177774 CAS 1 - 0000
114101 CHC 1 - 0001
134100 CHC 1 - 0001
104301 CHC 1 - 0001
```

```
******************************************************************************
[illegible]
[illegible]          RH    TIN TOUT  H2S PRES   [illegible] RAIN
```

FIG. 7

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0023 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

2320       6     5   102    80    75     4     0   794    30     0
2325       7     6    98    80    75     5     0   795    60     0
2330       7     7    98    79    75     5     0   794    77     0
2335       6     7   104    79    75     5     0   794    82     0
2340       6     6   102    78    75     5     0   795    12     0
2345       6     6   101    78    75     5     0   795   135     0
2350       6     5    94    78    75     5     0   795    90     0
2355       6     5    90    78    75     5     0   795    32     0
0000       6     4    89    77    75     5     0   795   117     0
0005       6     3    86    78    75     5     0   795    62     0
0010       6     3    73    78    75     4     0   795    74     0
0015       6     4    70    79    75     3     0   795    85     0

177774 CAS 1 - 0109
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0123 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0020       7     5    78    79    75     3     0   794    26     0
0025       6     4    78    79    75     3     0   795   102     0
0030       7     4    80    79    75     2     0   795    68     0
0035       6     4    84    79    75     3     0   795   136     0
0040       6     5    64    79    75     3     0   795    13     0
0045       6     5    73    79    75     2     0   795     5     0
0050       6     5    80    79    75     2     0   795     1     0
0055       6     4    78    79    75     2     0   795    25     0
0100       6     4    76    79    75     3     0   794    54     0
0105       6     4    74    79    75     2     0   795    66     0
0110       6     4    74    79    75     2     0   795    54     0
0115       6     4    76    79    75     2     0   795    42     0

114101 CAS 1 - 0200
134100 CAS 1 - 0200
104301 CAS 1 - 0200
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0223 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0120       6     5    70    78    75     3     0   795    50     0
0125       6     5    73    78    75     3     0   795    64     0
0130       6     5    70    77    75     4     0   795    36     0
0135       6     5    66    76    75     4     0   795     4     0
0140       7     4    82    76    75     5     0   794    88     0
0145       7     4    78    76    75     5     0   795    45     0
0150       6     4    78    75    75     6     0   795    54     0
0155       6     5    69    75    75     6     0   795    15     0
0200       6     5    62    75    75     5     0   795    24     0
0205       6     4    59    76    75     5     0   795    15     0
0210       6     5    61    76    75     5     0   795    35     0
0215       6     4    60    77    75     5     0   796    18     0

177774 CAS 1 - 0309
```

FIG. 7

```
024 0323 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT  .DGF   DGF   PPB   MBR   DEG   HDT

0220       6     4    66    78    75     4     0   795   174     0
0225       6     3    92    78    75     6     0   794    97     0
0230       6     3    84    77    75     6     0   795    37     0
0235       6     3    76    77    75     5     0   794   112     0
0240       6     5    85    77    75     6     0   795    92     0
0245       6     5    92    76    75     7     0   795.    8     0
0250       6     4    93    76    75     8     0   795    37     0
0255       5     3    78    75    75     8     0   794   108     0
0300       6     4    60    76    75     6     0   795     6     0
0305       6     5    70    77    75     7     0   795    66     0
0310       6     5    78    78    75     6     0   795    52     0
0315       6    .4    84    77    75     8     0   795    38     0

114101 CAS 1 - 0400
134100 CAS 1 - 0400
104301 CAS 1 - 0400
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0423 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0320       6     3    84    78    75     7     0   795    46     0
0325       6     3    82    79    75     6     0   795    86     0
0330       6     4    88    78    75     8     0   795    13     0
0335       6     5    88    78    75     9     0   795    13     0
0340       6     6    92    77    75     9     0   795    38     0
0345       6     7    93    77    75     9     0   795     6     0
0350       6     5    98    77    75     7     0   794    10     0
0355       6     6    96    78    75     7     0   794    14     0
0400       7     6    94    78    75     7     0   795   126     0
0405       7     6    98    79    75     7     0   795    70     0
0410       6     6   104    79    75     8     0   795    15     0
0415       5     6   101    78    75     9     0   795    42     0

177774 CAS 1 - 0509
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0523 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0420       5     6    98    78    75     8     0   795    14     0
0425       5     4   109    77    75     9     0   794    39     0
0430       6     5   104    76    75     9     0   795    46     0
0435       6     4    96    76    75     9     0   795     9     0
0440       6     4    84    76    75     9     0   795    54     0
0445       6     4    80    76    75     9     0   795   121     0
0450       6     4    78    76    75     8     0   795    76     0
0455       6     4    74    76    75     8     0   795    52     0
0500       6     4    74    76    75     7     0   795    56     0
0505       6     4    88    76    75     7     0   795    42     0
0510       6     4    90    76    75     7     0   795   122.    0
0515       6     5    90    76    75     7     0   795    54     0

114101 CAS 1 - 0600
134100 CAS 1 - 0600
104301 CAS 1 - 0600
```

FIG.7

```
024 0623 01/29/75
TIME     SO2   WS     WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0520       6     5    90    76    75     7     0   795    18     0
0525       6     5    82    76    75     7     0   794   141     0
0530       6     5    85    76    75     7     0   794    22     0
0535       6     6    89    76    75     7     0   794    18     0
0540       6     6    85    76    75     7     0   795    25     0
0545       6     7    82    76    75     8     0   795    50     0
0550       6     6    85    76    75     7     0   795    42     0
0555       6     6    78    77    75     7     0   795    49     0
0600       6     7    78    77    75     7     0   795    90     0
0605       6     7    82    77    75     6     0   795   129     0
0610       6     7    84    77    75     6     0   794    64     0
0615       5     8    82    77    75     7     0   795    88     0

177774 CAS 1 - 0709




◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0723 01/29/75
TIME     SO2   WS     WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0620       5     8    82    77    75     7     0   795   108     0
0625       5     7    84    76    75     8     0   795     2     0
0630       5     7    88    77    75     7     0   795    22     0
0635       5     8    85    77    75     8     0   794    26     0
0640       6     8    86    76    75     9     0   795    15     0
0645       6     9    80    74    75    10     0   795    30     0
0650       6     9    82    73    75    10     0   795    28     0
0655       6     9    78    73    75    10     0   794   101     0
0700       6     9    76    72    75    11     0   795    35     0
0705       6     8    80    71    75    10     0   795    35     0
0710       6     7    84    70    75    12     0   794   165     0
0715       6     8    72    69    75    12     0   795    34     0

114101 CAS 1 - 0800
134100 CAS 1 - 0800
104301 CAS 1 - 0800

L
UNIT 0 REC 023
UNIT 1 REC 017
UNIT 2 REC 000

C
L
UNIT 0 REC 024
UNIT 1 REC 018
UNIT 2 REC 000

Q
REC0 = 23
REC1 = 17
REC2 = 00
G
CAS UP - 0820
C
L
UNIT 0 REC 024
UNIT 1 REC 018
UNIT 2 REC 000

Q
REC0 = 23
REC1 = 17
REC2 = 00
```

FIG. 7

```
024 0823 01/29/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0720     6     7    '76    69    75    12     0   795    92     0
0725     6     6     70    68    75    11     0   795    56     0
0730     6     6     77    68    75    11     0   795    89     0
0735     6     7     78    69    75    10     0   795    68     0
0740     6     7     73    69    75    11     0   794    39     0
0745     6     6     69    68    75    11     0   795    20     0
0750     6     5     77    68    75    11     0   794   135     0
0755     6     5     62    69    75    11     0   795   317     0
0800     6     6     84    69    75    11     0   795   345     0
0805     6     7     90    68    75    12     0   794    74     0
0810     6     7     69    68    75    12     0   795   102     0
0815     6     5     70    66    75    12     0   795     2     0

D
0823 01/29/75
&.
L
UNIT 0 REC 023
UNIT 1 REC 017
UNIT 2 REC 000


Y

LAST CAL
 SO2 0534  01/28      INPUT PPB:   114
     LAST ZERO:       0      NEW ZERO:       1  LAST SPAN:    376   NEW SPAN:    114
 H2S 0534  01/28      INPUT PPB:    114
     LAST ZERO:       0      NEW ZERO:       0  LAST SPAN:      5   NEW SPAN:    114

M
MAN CAL SYSTEM = 2

CAL  SO2 0829 01/29/75

M
MAN CAL SYSTEM = 5

CAL  H2S 0829 01/29/75


R

024 0834 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0834     5     0     0

R

024 0834 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0834     2     0     0

R

024 0834 01/29/75
TIME    SO2   WS    H2S
        PPB   MPH   PPB

0834     0     0     0

0
ZERO CHAN = 2
0
ZERO CHAN = 9

END - 0834
E

END - 0834
&

H
HI VOL = 3


5

024 0846 01/29/75
TIME    SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
        PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0840     0     6     69    67    74    14     0   795 . 124     0
```

FIG.7

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 0923 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0820       5     5    74    69    75    11     0   794    66     0
0825     CAL     7    66    68    75    12   CAL   794    60     0
0830     CAL     6    65    67    75    13   CAL   794    92     0
0835     CAL     7    64    67    75    14   CAL   795   112     0
0840       0     6    69    67    74    14     0   795   124     0
0845       0     7    65    66    74    15     0   795    93     0
0850       0     8    65    65    74    16     0   794   117     0
0855       0     7    58    64    74    17     0   795    25     0
0900       0     7    60    63    74    17     0   795    94     0
0905       0     7    58    63    74    19     0   795   118     0
0910       0     7    58    63    74    19     0   794    45     0
0915       0     7    56    63    74    19     0   794    56     0


END - 0929
```

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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1023 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

0925       0     7    50    62    74    20     0   795   117     0
0930       0     6    52    62    74    20     0   795    80     0
0935       0     8    46    61    74    20     0   795    52     0
0940       0     6    46    61    74    20     0   795    56     0
0945       0     6    45    61    74    21     0   795    61     0
0950       0     5    37    60    74    21     0   795    92     0
0955       0     5    37    60    74    22     0   794    92     0
1000       0     4    37    60    74    22     0   795    93     0
1005       0     4    42    60    74    23     0   794   185     0
1010       0     4    35    59    74    23     0   795   150     0
1015       0     4    58    60    74    24     0   795   757     0
1020       0     6   101    59    75    25     0   795   200     0
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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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FIG. 7

```
024 1123 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1025       0    7   102    58    75    25     0   795   213     0
1030       0    8   108    57    75    25     0   794   174     0
1035       0    8   102    56    75    25     0   795    66     0
1040       0    8   102    56    75    26     0   795   146     0
1045       0   10   122    56    75    26     0   795   336     0
1050       0    8   116    55    75    26     0   794   295     0
1055       0   11   116    54    75    27     0   795   219     0
1100       0    8   113    54    75    27     0   795   180     0
1105       0    8   116    53    75    27     0   795   146     0
1110       0    7   114    53    75    27     0   795   270     0
1115       0    8   128    53    75    28     0   795   243     0
1120       0    8   138    52    75    29     0   795   176     0

177774 CAS 1 - 1209
134100 CAS 1 - 1210
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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1223 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1125       0    6   121    52    75    28     0   795   198     0
1130       0    7   130    52    75    28     0   795    38     0
1135       0    6   135    51    75    29     0   795   773     0
1140       0    5   141    51    75    30     0   795  1127     0
1145       0    7   120    51    75    30     0   795   428     0
1150       0    8   144    51    75    30     0   795   684     0
1155       0   11   154    51    75    30     0   795   926     0
1200       0   16   138    51    75    30     0   794   462     0
1205       0   10   136    50    75    29     0   795   176     0
1210       0   12   152    50    75    30     0   795   698     0
1215       0   14   163    50    75    30     0   794   585     0
1220       0    9   146    50    75    30     0   795   520     0

177774 CAS 1 - 1309
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◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1323 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB  MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1225       0    8   154    50    75    30     0   795   672     0
1230       0    8   144    50    75    30     0   795   566     0
1235       0    8   168    50    75    30     0   795  1403     0
1240       0   10   138    50    75    30     0   795   120     0
1245       0    7   144    50    75    30     0   795   302     0
1250       0    8   138    50    75    31     0   796   382     0
1255       0   12   145    50    75    31     0   794   170     0
1300       0   11   146    49    75    31     0   794   476     0
1305       0   10   154    49    75    31     0   795   967     0
1310       0    9   140    49    75    31     0   795   188     0
1315       0   10   154    49    75    31     0   795   518     0
1320       0    9   198    48    75    31     0   795   871     0

114101 CAS 1 - 1400
134100 CAS 1 - 1400
104301 CAS 1 - 1400
```

FIG. 7

```
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
024 1423 01/29/75
TIME     SO2   WS    WD    RH    TIN TOUT  H2S PRES   WDV RAIN
         PPB  MPH   DEG   PCT   DGF  DGF  PPB  MBR   DEG  HDT

1325       0    6   166    48    75   31    0  794  1034    0
1330       0    7   161    48    75   32    0  795   533    0
1335       0    7   154    48    75   32    0  795   599    0
1340       0    5   185    48    75   32    0  794   679    0
1345       0    5   166    49    75   32    0  795   779    0
1350       0    4   166    48    75   32    0  795  1057    0
1355       0    6   164    47    75   32    0  795  1177    0
1400       0    6   184    47    75   32    0  795  1109    0
1405       0    6   164    49    75   32    0  794   967    0
1410       0    9   157    47    75   32    0  795   779    0
1415       0    6   173    47    75   32    0  795  1357    0
1420       0    9   150    47    75   32    0  795   122    0

177774 CAS 1 - 1509




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024 1523 01/29/75
TIME     SO2   WS    WD    RH    TIN TOUT  H2S PRES   WDV RAIN
         PPB  MPH   DEG   PCT   DGF  DGF  PPB  MBR   DEG  HDT

1425       0   12   149    47    75   32    0  795    85    0
1430       0   11   166    47    75   32    0  795   533    0
1435       0   13   174    47    75   32    0  795  1054    0
1440       0   11   156    47    75   32    0  795   330    0
1445       0   11   154    47    75   32    0  795   726    0
1450       0   11   170    47    75   32    0  795   935    0
1455       0   11   176    47    75   32    0  795   999    0
1500       0   11   164    47    75   32    0  795   628    0
1505       0   10   165    47    75   32    0  795   407    0
1510       0   10   152    47    75   32    0  795   317    0
1515       0   11   166    47    75   32    0  795   565    0
1520       0    9   154    47    75   32    0  794    62    0

114101 CAS 1 - 1600
134100 CAS 1 - 1600
104301 CAS 1 - 1600

L
UNIT 0 REC 029
UNIT 1 REC 020
UNIT 2 REC 000

C
L
UNIT 0 REC 030
UNIT 1 REC 021
UNIT 2 REC 000

&




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                     DAILY SUMMARY FOR TRAILER 024   01/29/75

INSTANTANEOUS MAXIMUM VALUES
 SO2      921     TIME 0737
 WS        25     TIME 1202
 H2S     1000     TIME 0627


MAXIMUM FIVE MINUTE AVERAGES
 SO2        6     TIME 0040
 WS        15     TIME 1200
 WD       195     TIME 1610
 RH        79     TIME 0015
 TIN       75     TIME 1605
TOUT       32     TIME 1615
 H2S        0     TIME 0005
PRES      795     TIME 0215
```

FIG. 7

```
30 MINUTE AVERAGES

TIME    SO2  WS    H2S
        PPB  MPH   PPB
0000     6    4     0
0030     6    4     0
0100     6    4     0
0130     6    4     0
0200     6    4     0
0230     6    3     0
0300     6    4     0
0330     6    5     0
0400     5    5     0
0430     5    4     0
0500     5    4     0
0530     6    5     0
0600     5    7     0
0630     5    8     0
0700     5    7     0
0730     6    6     0
0800    CAL   6   CAL
0830     0    6     0
0900     0    7     0
0930     0    6     0
1000     0    4     0
1030     0    8     0
1100     0    7     0
1130     0    7     0
1200     0   11     0
1230     0    8     0
1300     0    9     0
1330     0    5     0
1400     0    8     0
1430     0   11     0
1500     0   10     0
1530     0    7     0


DAILY AVERAGES
 SO2         3
 WS          6
 WD        103
 RH         64
 TIN        74
TOUT        17
 H2S         0
PRES       794

RAIN         0

LAST CAL
 SO2 0829  01/29      INPUT PPB:    114
     LAST ZERO:      1      NEW ZERO:       0  LAST SPAN:   376   NEW SPAN:   114
 H2S 0829  01/29      INPUT PPB:    114
     LAST ZERO:      0      NEW ZERO:       0  LAST SPAN:     5   NEW SPAN:   114

*********************************************************************************
```

```
*********************************************************************************
024 1623 01/29/75
TIME     SO2   WS    WD    RH    TIN  TOUT   H2S  PRES   WDV  RAIN
         PPB   MPH   DEG   PCT   DGF   DGF   PPB   MBR   DEG   HDT

1525      0     9   154    47    75    32     0   795   326     0
1530      0     9   155    47    75    32     0   795  1301     0
1535      0     8   176    47    75    32     0   795   919     0
1540      0     9   166    47    75    32     0   795   669     0
1545      0     7   176    47    75    32     0   795   698     0
1550      0     7   190    47    75    32     0   795   960     0
1555      0     5   164    47    75    32     0   795   329     0
1600      0     5   180    47    75    33     0   795  1093     0
1605      0     3   178    47    76    33     0   794   920     0
1610      0     3   196    47    75    32     0   795   901     0
1615      0     1   181    47.   75    33     0   795  1714     0
1620      0     2   154    47    76    33     0   795  1074     0
```

FIG. 8

HOURLY CLOUD AND SKY CONDITIONS AS ESTIMATED HOURLY
AT THE TRACT C-b DURING THE 24 HOUR PERIOD OF THE TEST

TIME	SKY CONDITIONS	(°F) 8' TEMP	(%) 8' RH	(°) 30' WD	MPH 30' WS	PASQUILL STABILITY	NET RADIATION INDEX
1609	300(2/10)2500(6/10)	19	100	247	9	D	1
1700	300(2/10)2500(1/10)	17	86	275	9	E	-2
1800	300(1/10)	14	91	248	6	F	-2
1900	0	11	91	244	6	F	-2
2000	0	10	87	150	4	F	-2
2100	0	6	89	182	7	E	-2
2200	0	6	89	182	7	E	-2
2300	0	8	93	238	2	G	-2
2400	E2500(4/10)	11	91	142	4	F	-2
100	E1800(1/10)2500(7/10)	10	89	113	5	E	-1
200	E1800(2/10)2500(10/10)	11	87	145	6	F	-2
300	E1800(2/10)2500(8/10)	14	89	148	8	E	-2
400	E1800(2/10)2500(7/10)	12	90	120	4	E	-1
500	E2500(6/10)	11	89	135	8	D	-1
600	E1500(2/10)2500(6/10)	11	89	125	6	E	-1

FIG. 8 cont.

TIME	SKY CONDITIONS	(°F) 8' TEMP	(%) 8' RH	(°) 30' WD	MPH 30' WS	PASQUILL STABILITY	NET RADIATION INDEX
700	E250⦷(6/10)350⦷(6/10)	11	89	120	8	D	-1
800	E250⦷(7/10)	12	87	101	8	D	-1
900	E250⦷(7/10)	17	83	100	7	D	1
1000	E250⦶(3/10)	19	80	64	6	C	2
1100	E250⦶(3/10)	23	70	157	10	D	2
1200	E30⦶(1/10)180⦶(1/10)250⦶(5/10)	27	67	190	13	D	2
1300	E30⦶(1/10)180⦶(2/10) 250⦷(6/10)	27	66	197	15	D	2
1400	E30⦶(1/10)180⦶(1/10)250⦷(7/10)	29	64	206	10	D	2
1500	E30⦶(1/10)150⦶(1/10)250⦷(7/10)	30	65	206	12	D	2
1600	E30⦶(1/10)150⦶(1/10)250⦷(8/10)	29	64	210	6	D	1

FIG. 9

HOURLY METEOROLOGICAL OBSERVATIONS AT TRACT C-b

TIME	ADDITIONAL COMMENTS
1600	CIRRUS and few CU NW-N TCU E-SE
1700	TCU OMTNS E, few CU W, S-E C1 NW
1800	Few CU DSNT E
2300	C1 South
0000	C1 S, CS moving N
0100	AC, C1 OVHD, CS South, ring around moon
0200	Moon and Stars visible thru C1 ring around moon, AC Deck South
0300	AC & AS Deck S-W, Jet stream cloudiness, ring around moon
0400	Moon and stars visible, as S-SW ring around moon
0500	Clouds have band, streaky structure
0600	AC South and OVHD, CC ALQDS
0800	C1 LENTICULARIS ALQDS, C1 thicker NW
0900	C1 thicker NW
1000	C1 thicker NW
1100	C1 thicker S-SE
1200	CS and AC SE-S-SW, few CU north VIRGA SW
1300	CS and AC thicker south and southwest few CU, VIRGA
1400	CS thick S and SE, some VIRGA
1500	Few CU N, W, SE; thick CS SW-SE sun dimmed by C1,AS SE
1600	Few CU ALQUDS, CS W-S-E, AS SW, some VIRGA

FIG. 10

METEOROLOGICAL CONDITIONS AT GRAND JUNCTION, COLORADO COVERING THE 24 HOUR PERIOD FROM 1600 HOURS, JANUARY 28th TO 1600 HOURS, JANUARY 29th, 1975

(MST) TIME	CLOUD AND SKY CONDITIONS	HORIZONTAL VISIBILITY MILES	BAROMETRIC PRESSURE (MILLIBARS)
1600	45⦶70⦶	60	1012.1
1700	50⦶	70	1012.9
1800	50⦶	70	1014.6
1900	O	30+	1017.0
2000	O	30+	1017.7
2100	O	30+	1018.7
2200	O	30+	1019.5
2300	O	30+	1020.3
2400	300⦶	30+	1021.0
0100	150⦶E280⊕	30+	1021.0
0200	E280⊕	30+	1021.0
0300	E280⊕	30+	1020.9
0400	E280⦶	30+	1020.7
0500	280⦶	30+	1020.1
0600	280⦶	30+	1021.0
0700	280⦶	30+	1021.0
0800	280⦶	70	1020.4
0900	280⦶	70	1020.7
1000	280⦶	70	1019.6
1100	280⦶	70	1019.5
1200	250⊕	70	1018.3

FIG. 10 cont.

(MST) TIME	CLOUD AND SKY CONDITIONS	HORIZONTAL VISIBILITY MILES	BAROMETRIC PRESSURE (MILLIBARS)
1300	250⊕	70	1016.4
1400	E250⊕	70	1015.2
1500	120⦶E250⊕	90	1015.0
1600	50⦶120⦶E250⊕	80	1014.6
1700	50⦶120⦶E250⊕	70	1014.2

FIG. 10 cont.

METEOROLOGICAL CONDTIONS AT GRAND JUNCTION, COLORADO
COVERING THE 24 HOUR PERIOD FROM
1600 HOURS, JANUARY 28th to 1600 HOURS, JANUARY 29th, 1975

(MST) TIME	F° TEMPERATURE	F° DEW POINT	WIND DIRECTION	(KNOTS) WIND SPEED	(INCHES) ALTIMETER SETTING
1600	34°	14°	250°	18	29.88
1700	33°	12°	270°	15	29.92
1800	28°	8°	270°	06	29.91
1900	26°	8°	240°	05	30.00
2000	23°	5°	310°	03	30.02
2100	23°	8°	350°	03	30.03
2200	23°	8°	00°	00	30.04
2300	19°	7°	00°	00	30.05
2400	17°	9°	30°	06	30.07
0100	18°	11°	360°	02	30.07
0200	20°	12°	110°	04	30.08
0300	19°	11°	110°	04	30.07
0400	19°	10°	120°	05	30.06
0500	21°	10°	120°	06	30.05
0600	19°	9°	100°	07	30.05
0700	19°	9°	110°	09	30.04
0800	22°	10°	90°	12	30.03
0900	21°	9°	100°	10	30.03
1000	26°	12°	120°	12	30.01
1100	29°	13°	130°	07	30.01
1200	32°	12°	90°	07	29.98
1300	35°	13°	100°	02	29.93

FIG. 10 cont.

(MST) TIME	F° TEMPERATURE	F° DEW POINT	WIND DIRECTION	(KNOTS) WIND SPEED	(INCHES) ALTIMETER SETTING
1400	35°	15°	310°	09	29.91
1500	33°	15°	300°	07	29.89
1600	33°	15°	270°	04	29.89
1700	33°	15°	320°	04	29.88

FIG. 10 cont.

METEOROLOGICAL CONDITONS AT GRAND JUNCTION, COLORADO COVERING THE 24 HOUR PERIOD FROM 1600 HOURS, JANUARY 28th TO 1600 HOURS, JANUARY 29th, 1975

TIME (MST)	REMARKS OF OBSERVER
1600	SWU OMTNS E and SE
1700	RADAT 33057
1800	
1900	Few SC
2000	229 1500
2100	Few SC
2200	
2300	
2400	
0100	
0200	THN SPTS BINOVC/108 1037
0300	
0400	Few AC
0500	Few AC RADAT ZERO
0600	
0700	Few AC in S QUADRANT
0800	807 1001
0900	
1000	
1100	
1200	

FIG. 10 cont.

TIME (MST)	REMARKS OF OBSERVER
1300	
1400	Few SC 729 1507
1500	
1600	BINOVC SWU OMTNS E
1700	SWU OVR HIR MTNS RADAT 45049

FIG. 11

SYNOPTIC REPORTS FOR GRAND JUNCTION, COLORADO DURING THE 24 HOUR TEST PERIOD

(1700 MST)				
•29/0000Z	72476	12715	89018	12901
	15700	61232	68481	70151
	20004	44332		
(2300 MST)				
•29/0600Z	72476	00000	84020	20357
	00900	64210	68521	20004
	44319			
(0500 MST)				
•29/1200Z	72476	71206	84022	20156
	10938	62708	6/521	90401
	20004	44317		
(1100 MST)				
•29/1800Z	72476	71307	89032	19552
	00901	61/05	60508	20001
	42917			

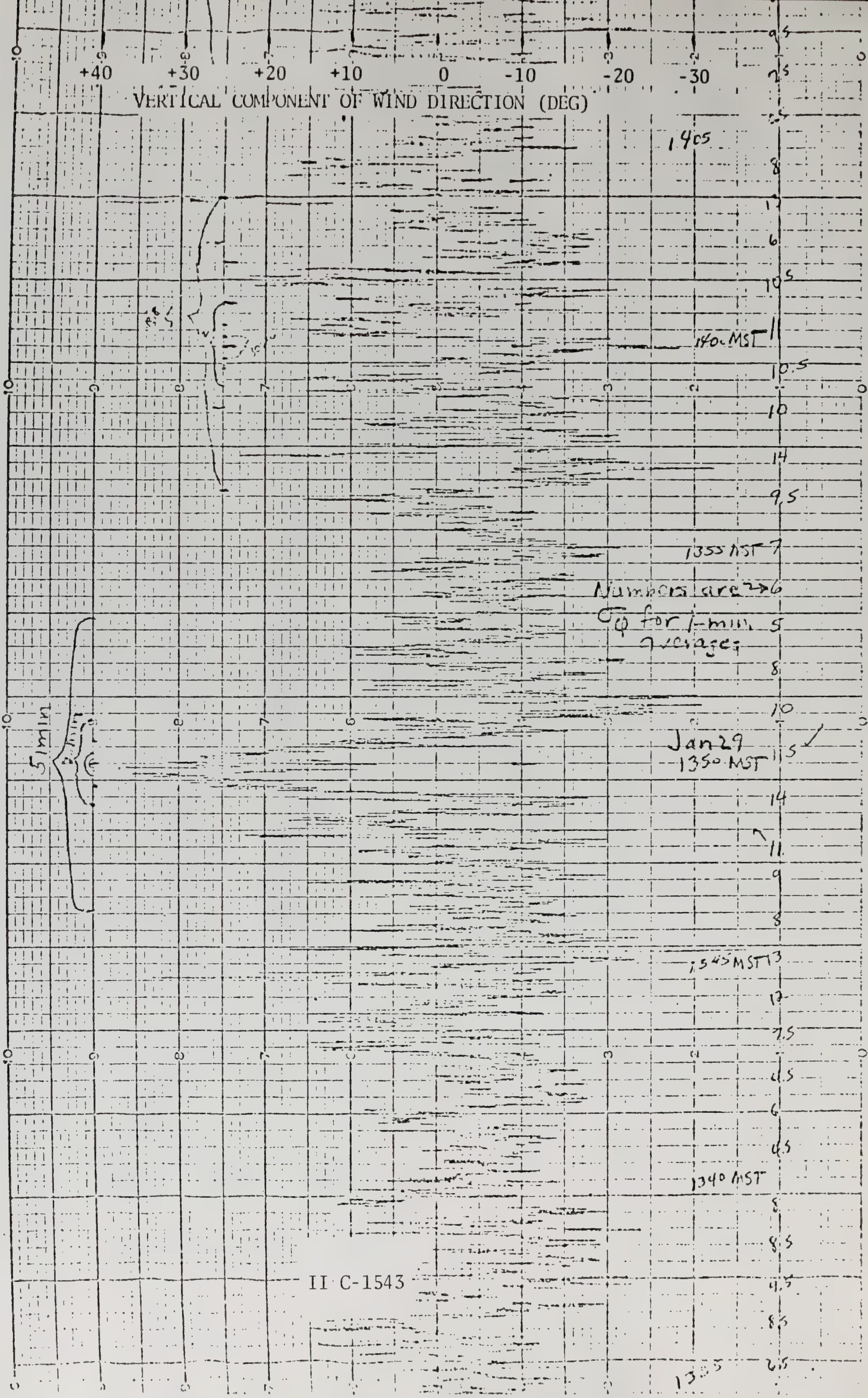


FIG. 12a
VERTICAL COMPONENT OF WIND DIRECTION
100' BIVANE

FIG. 12b
VERTICAL COMPONENT OF WIND DIRECTION
200' BIVANE

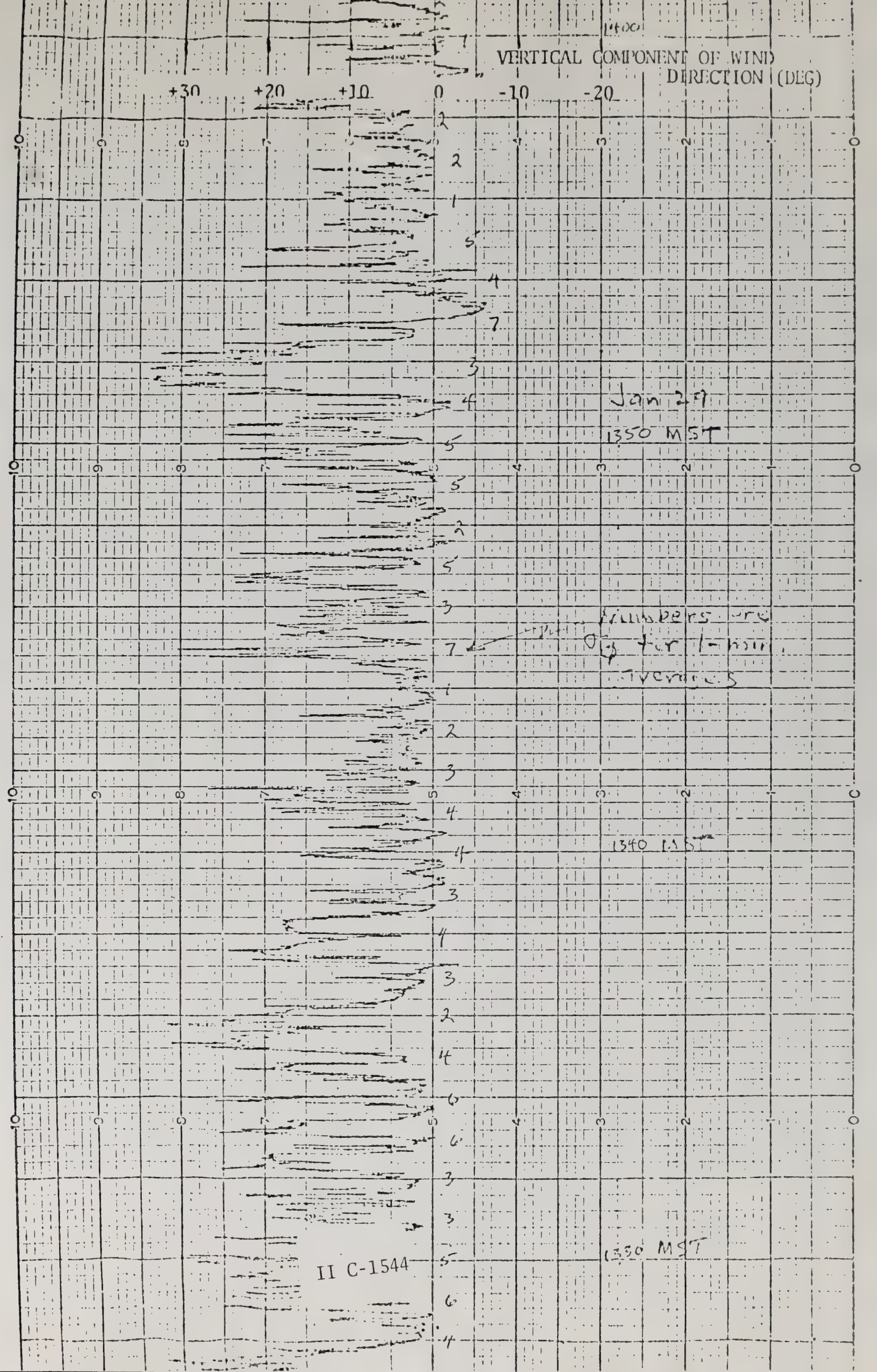


FIG. 13

MEAN VERTICAL COMPONENT OF WIND DIRECTION & STANDARD DEVIATION
1 MINUTE AVERAGE
100' LEVEL

DATE	TIME (MST)	MEAN VERTICAL COMPONENT (DEG)	σ_ϕ (DEG)	STABILITY CLASS USING σ_ϕ
1/28/75	1630	2	10	D
	1700	-8	7.5	D
	1730	0	7.5	D
	1800	-3.5	3	E
	1830	-2	2.3	E
	1900	-4	3	E
	1930	-5.5	1	F
	2000	-20	4	E
	2030	-5.5	1.5	F
	2100	-7	1.3	F
	2130	-9	1	F
	2200	-6	1	F
	2230	-6	2.5	E
	2300	-5	1	F
	2330	-8.5	1.2	F
	2400	-8.5	1.5	F
1/29/75	0030	-6	1.5	F
	0100	-9	1.25	F
	0130	-11	3.5	E
	0200	-6	2	F
	0230	-9	2	F
	0300	-10	1	F
	0330	-5	2.5	E

FIG. 13 cont.

DATE	TIME (MST)	MEAN VERTICAL COMPONENT (DEG)	σ_ϕ (DEG)	STABILITY CLASS USING σ_ϕ
	0400	-6	1.5	F
	0430	-5	4	E
	0500	-5.5	1.5	F
	0530	-10	3.7	E
	0600	-7.5	6.5	D
	0630	-10	2.5	E
	0700	-9	3.5	E
	0730	-15	8	D
	0800	-4	8.3	D
	0830	-10	3.8	E
	0900	+2	7.5	D
	0930	-6	7.3	D
	1000	-19	11	C
	1030	-15	6.5	D
	1100	-4	6.8	D
	1130	0	9.5	C
	1200	-5	6.8	D
	1230	-6	7.5	D
	1300	-17	9.8	C
	1330	+2	8.5	D
	1400	-22	11.	C
	1430	-8	6.5	D
	1500	-15	9	C
	1530	-5	6.5	D
	1600	-5	9.5	C

FIG. 13 cont.

NOTE:

STABILITY CLASS	σ_ϕ RANGE (DEG)
F	0-2
E	2-6
D	6-9
C	9-15
B	>15

ASSUMPTION: Extremes of trace over 1 minute duration taken $\equiv 4\ \sigma_\phi$

FIG. 14a

EFFECTS OF AVERAGING TIME ON σ_ϕ (DEG)
(100' Level)

(MST) TIME	15 SEC	30 SEC	1 MIN	2 MIN	5 MIN
1350	7.5 (D)	7.5 (D)	11.5 (C)	13.8 (C)	19.5 (B)
1400	4.8 (E)	7.5 (D)	11 (C)	11.3 (C)	18.8 (B)
1410	6.3 (D)	10.8 (C)	10.8 (C)	10.8 (C)	17.5 (B)
1420	4.8 (E)	8.3 (D)	8.3 (D)	10.5 (C)	12 (C)

NOTE: ( ) = Stability Class

σ_ϕ = Standard deviation in the vertical directional component of wind direction for the averaging times tabulated.

FIG. 14b

EFFECTS OF AVERAGING TIME ON σ_ϕ (DEG)
& ON STABILITY CLASS - 100' BIVANE
JANUARY 29, 1975

(MST) TIME	15 SEC	30 SEC	1 MIN	2 MIN	5 MIN
0525	5.0 (E)	5.0 (E)	10.3 (C)	10.3 (C)	11.8 (C)
0820	2.5 (E)	3.0 (E)	3.9 (E)	8.3 (D)	10.0 (C)
1130	5.5 (E)	6.0 (E-D)	11.3 (C)	15.6 (D)	18.8 (B)
1600	6.5 (D)	8.3 (D)	12.0 (C)	12.3 (C)	12.3 (C)

NOTES: TO THE LEFT, STABILITY CLASS AS INDICATED BY σ_ϕ CORRESPONDS TO THAT GIVEN BY SLOPE OF TEMPERATURE-ALTITUDE PLOT.

( ) = STABILITY CLASS

σ_ϕ = STANDARD DEVIATION IN VERTICAL COMPONENT OF WIND DIRECTION FOR THE AVERAGING TIMES INDICATED.

MST = MOUNTAIN STANDARD TIME CORRESPONDS HERE TO THOSE OF UPPER ATMOSPHERIC SOUNDINGS (APPROXIMATELY)

FIG. 15
ACOUSTIC SOUNDER STRIP CHART
C-b SITE

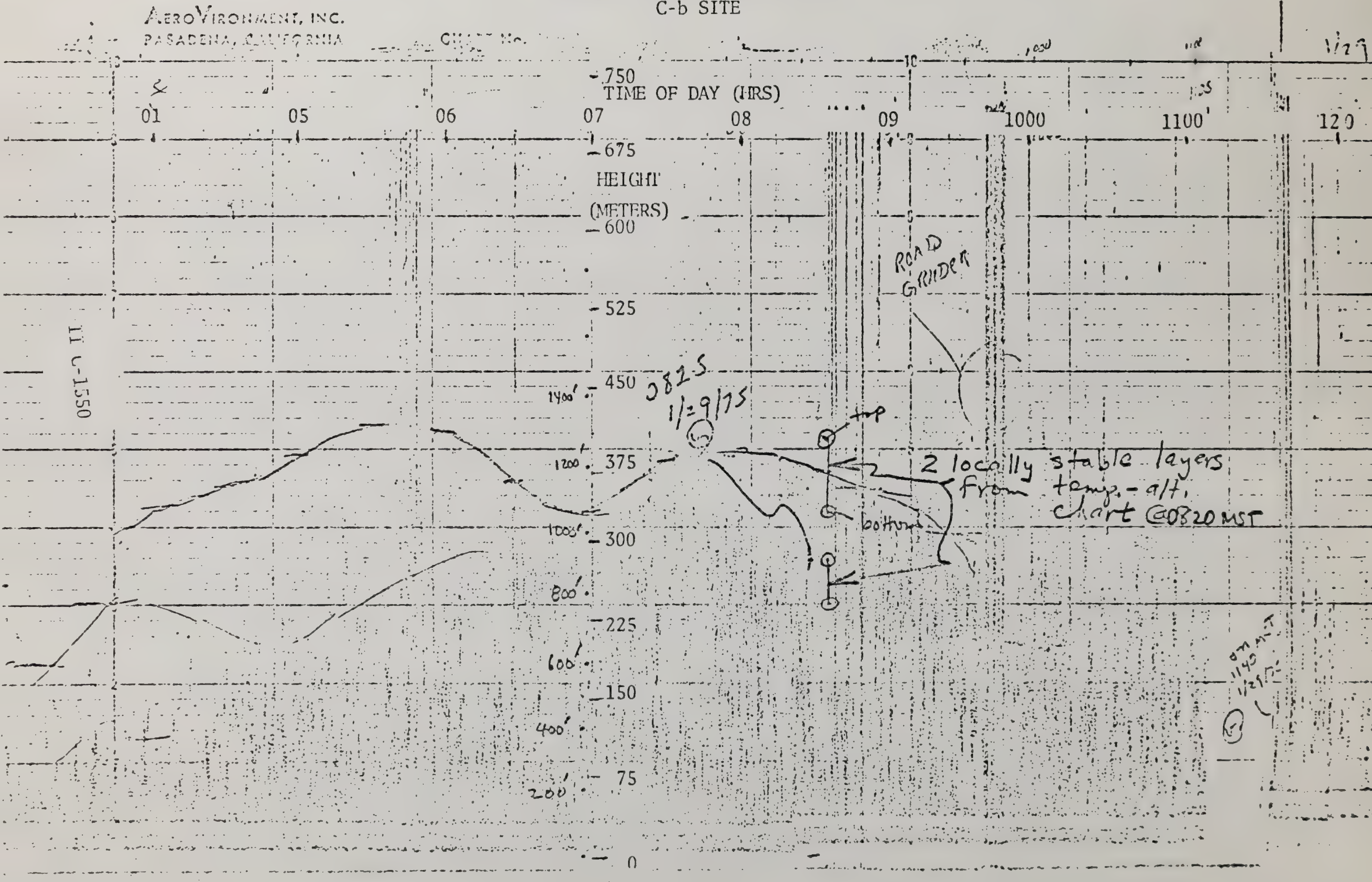


FIG. 16
ACOUSTIC SOUNDER STRIP CHART
COLONY SITE

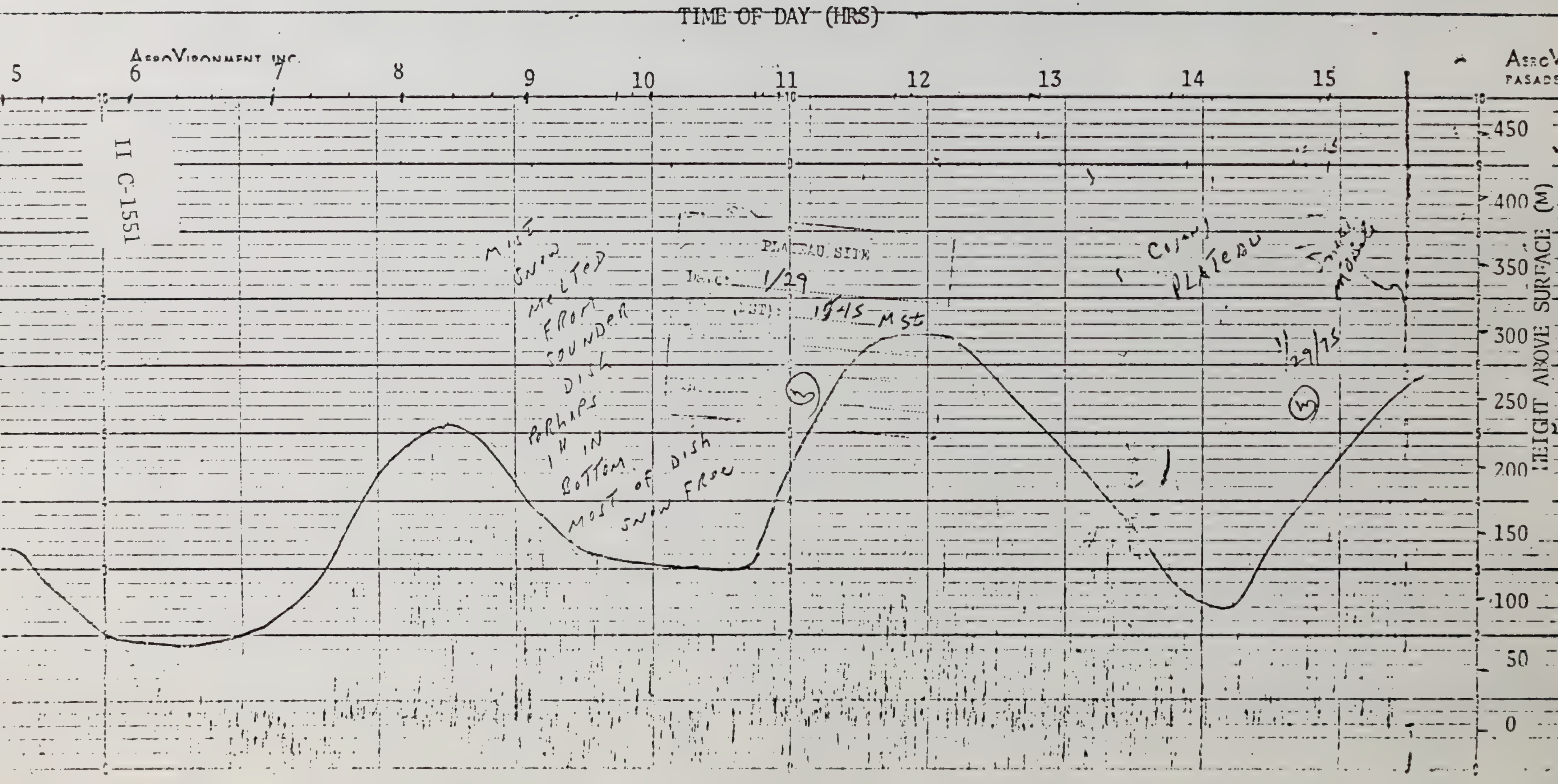


FIG. 17

ACOUSTIC SOUNDER
TEMPERATURE INVERSION HEIGHTS AT COLONY - DERE CABIN RIDGE
January 28th - 29th

TIME	HEIGHT(M)	TIME	HEIGHT(M)	TIME	HEIGHT(M)
JAN. 28	---	2230	125 I	0900	200 T
1200	---	2300	50 I	0930	130 T
1230	---	2330	50 I	1000	130 T
1300	---	2400	100 I	1030	130 T
1330	---	JAN. 29		1100	130 T
1400	---	0030	200 I	1130	275 T
1430	200 I	0100	225 I	1200	275 T
1500	75 I	0130	225 I	1230	275 T
1530	175 I	0200	200 I	1300	250 T
1600	75 I	0230	150 I	1330	200 T
1630	50 I	0300	120 I	1400	150 T
1700	60 I	0330	100 I	1430	100 T
1730	90 I	0400	120 I	1500	200 T
1800	40 I	0430	100 I	1530	250 T
1830	40 I	0500	130 I		
1900	90 I	0530	100 I		
1930	50 I	0600	80 I		
2000	40 I	0630	80 I		
2030	60 I	0700	80 I		
2100	75 I	0730	130 I		
2130	150 I	0800	225 T		
2200	125 I	0830	225 T		

NOTE: T=Top of turbulent layer (M)

I=Top of inversion layer (M)

FIG. 18

ACOUSTIC SOUNDER
TEMPERATURE INVERSION HEIGHTS AT TRACT C-b MET TOWER SITE
JANUARY 28th and 29th

TIME	T200'	T100'	T8	W200	W100	W30	HEIGHT (M)
	--TEMPERATURE ($^{\circ}$F)----			--WIND SPEED (MPH)---			
JAN. 28							
1700	18	18	18	11	10	9	
1730	17	17	16	11	9	8	160
1800	16	15	13	11	10	6	120
1830	16	15	9	16	14	9	200
1900	16	15	12	14	11	6	110
1930	13	13	13	2	3	1	200
2000	14	13	10	3	3	4	340
2030	13	13	7	5	9	9	290
2100	14	14	6	9	10	7	180
2130	15	15	9	9	11	8	170
2200	15	14	9	7	7	6	290
2230	14	14	6	6	7	6	160
2300	13	13	8	1	2	2	450
2330	12	13	9	5	4	4	370
2400	13	13	11	3	4	5	350
JAN. 29							
0030	13	12	11	6	8	5	360
0100	14	13	10	4	7	5	370
0130	14	13	11	4	7	4	380
0200	14	14	11	5	7	7	350
0230	15	15	12	7	8	7	300

FIG. 18 cont.

TIME	T200'	T100'	T8	W200	W100	W30	HEIGHT
	---TEMPERATURE (°F)--			--WIND SPEED (MPH)--			(M)
0300	16	16	14	8	9	8	250
0330	15	15	13	10	8	7	180
0400	15	13	12	10	7	5	330
0430	15	14	12	11	10	9	350
0500	14	14	11	11	12	8	370
0530	14	12	10	8	9	5	400
0600	14	12	11	11	10	6	400
0630	15	12	11	12	12	7	360
0700	15	13	11	11	11	8	330
0730	14	13	11	10	10	8	370
0800	9	15	14	10	11	9	390
0830	9	15	16	9	10	8	360
0900	16	16	18	8	8	7	350
0930	16	16	17	8	8	7	300
1000	20	20	19	6	5	6	200

1030 - 1600 No inversions

FIG. 19

USAF SKEW T, log p DIAGRAM (GJT)

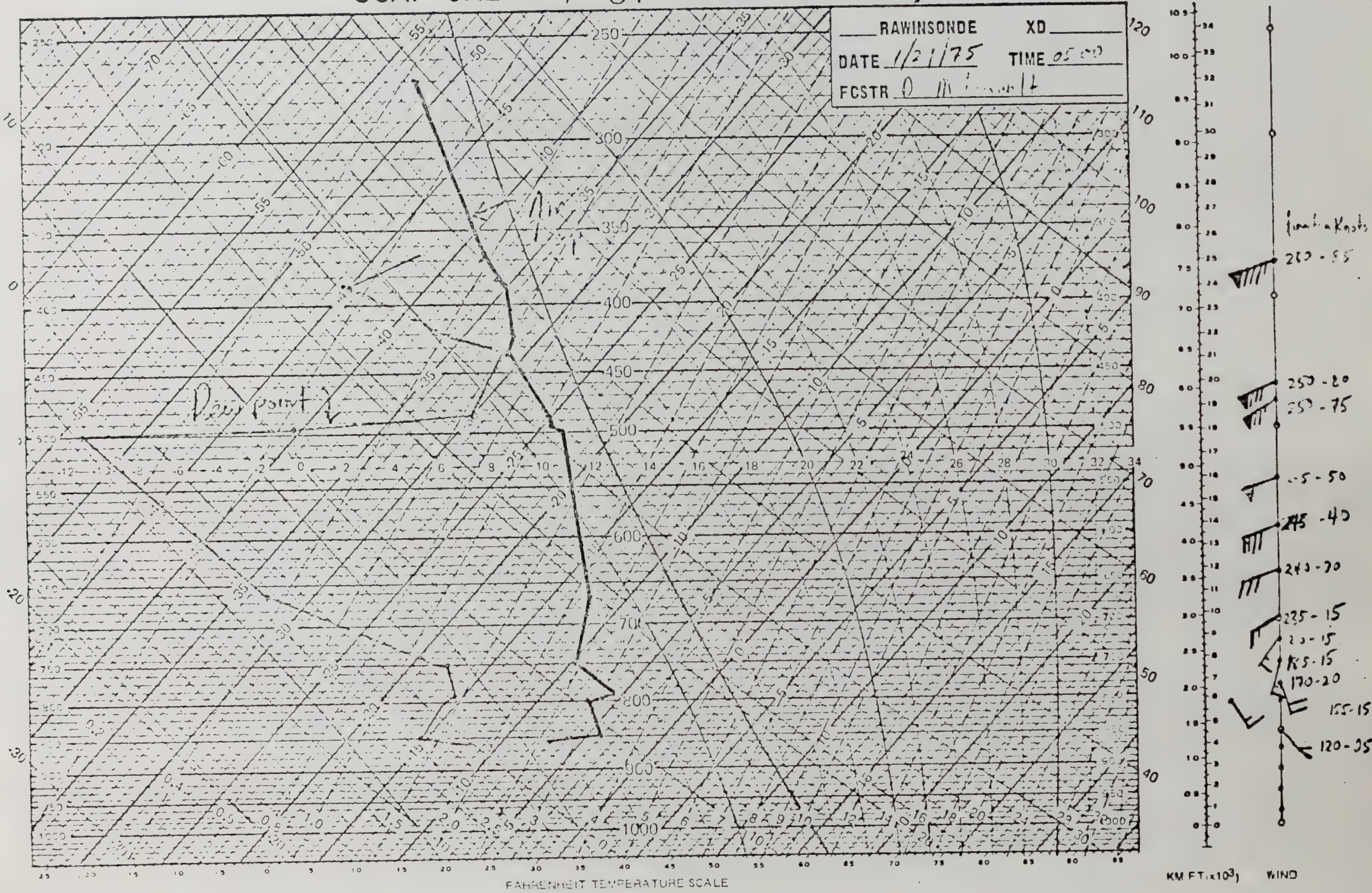
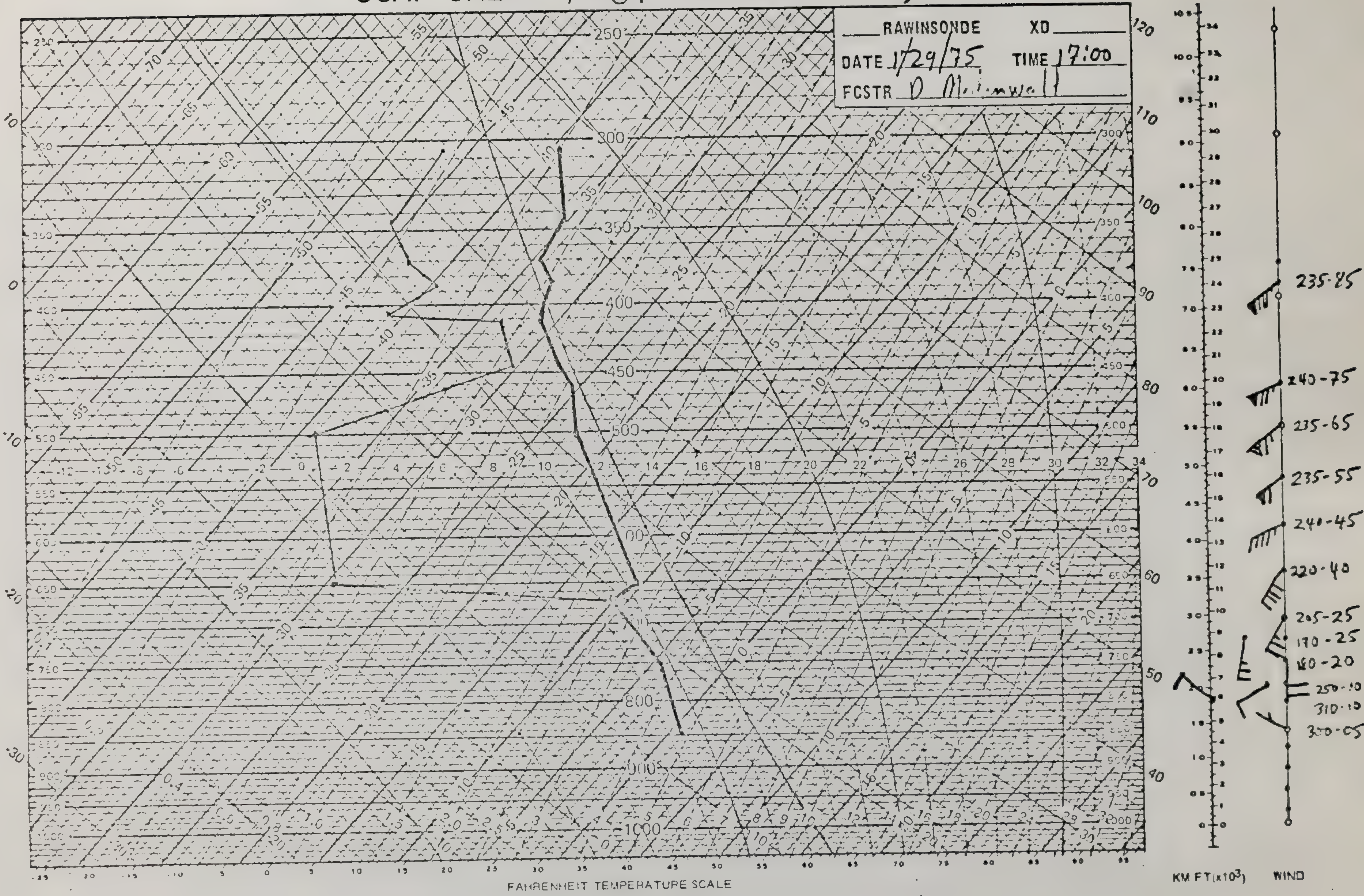


FIG. 20

USAF SKEW T, log p DIAGRAM (GJT)

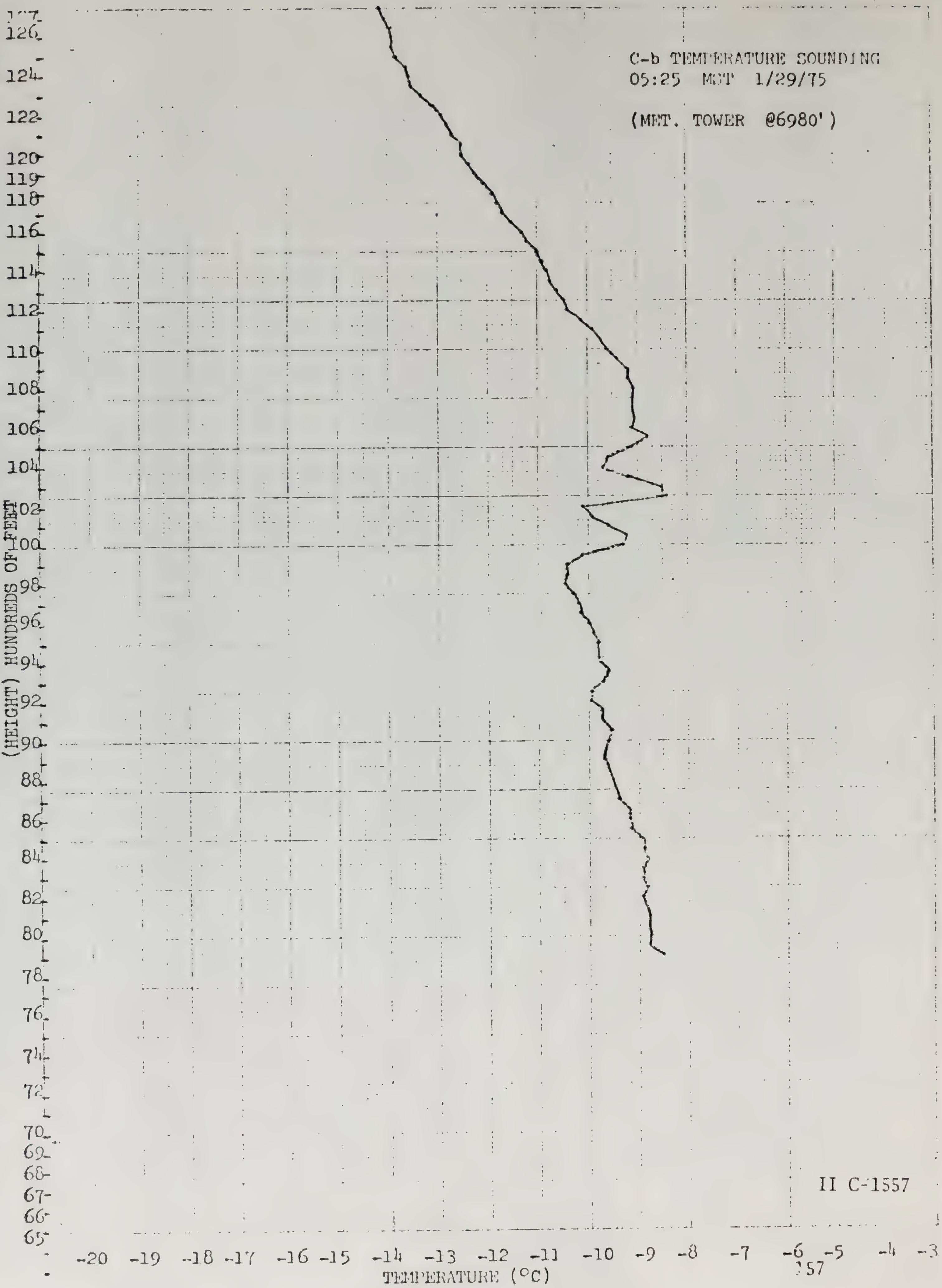


____ RAWINSONDE XD ______

DATE 1/29/75 TIME 17:00

FCSTR D Mainwell

FIG 21



C-b TEMPERATURE SOUNDING
05:25 MST 1/29/75

(MET. TOWER @6980')

II C-1557

FIG 22

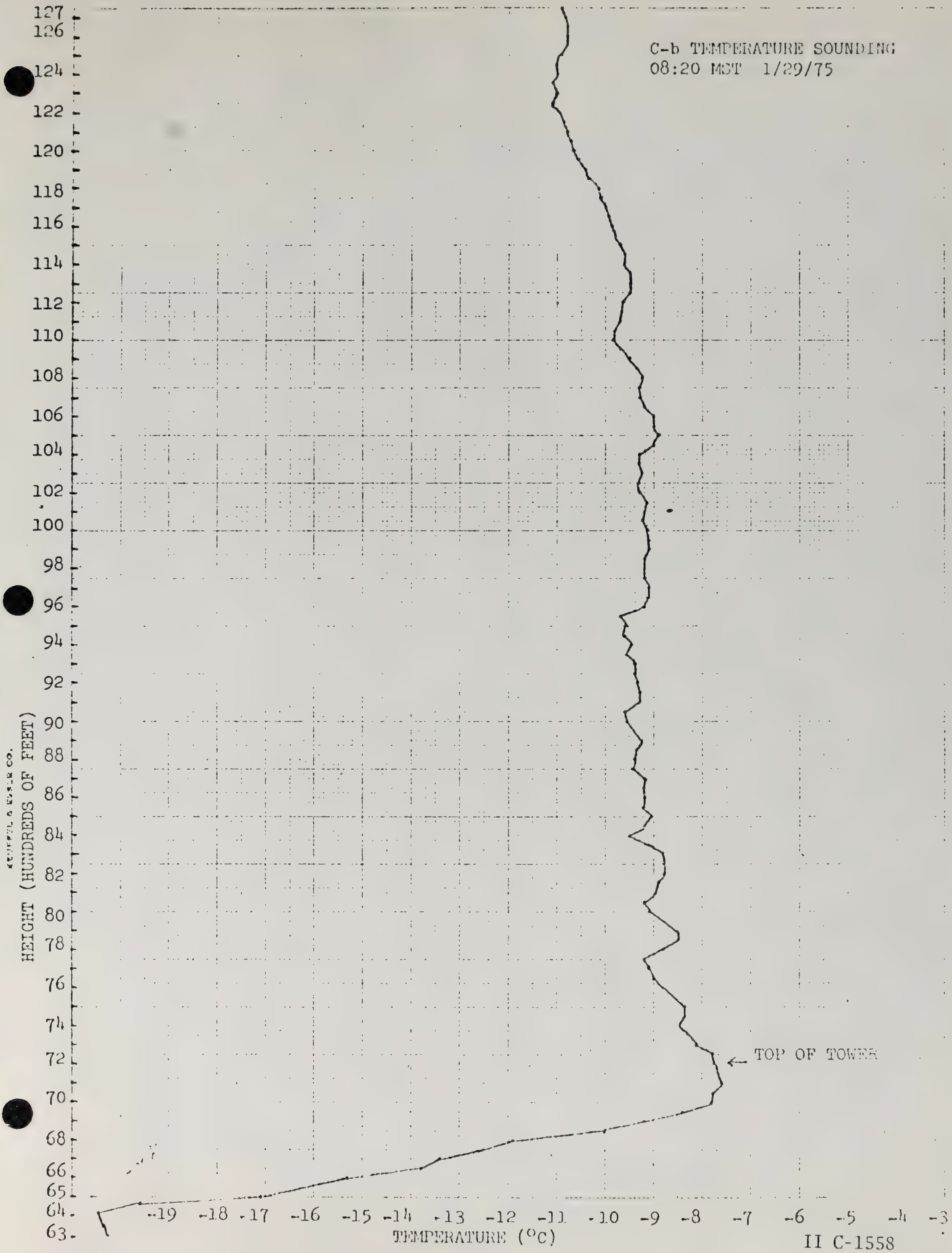

C-b TEMPERATURE SOUNDING
08:20 MST 1/29/75
TOP OF TOWER
HEIGHT (HUNDREDS OF FEET)
127
126
124
122
120
118
116
114
112
110
108
106
104
102
100
98
96
94
92
90
88
86
84
82
80
78
76
74
72
70
68
66
65
64
63
-19
-18
-17
-16
-15
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
TEMPERATURE (°C)

FIG 23

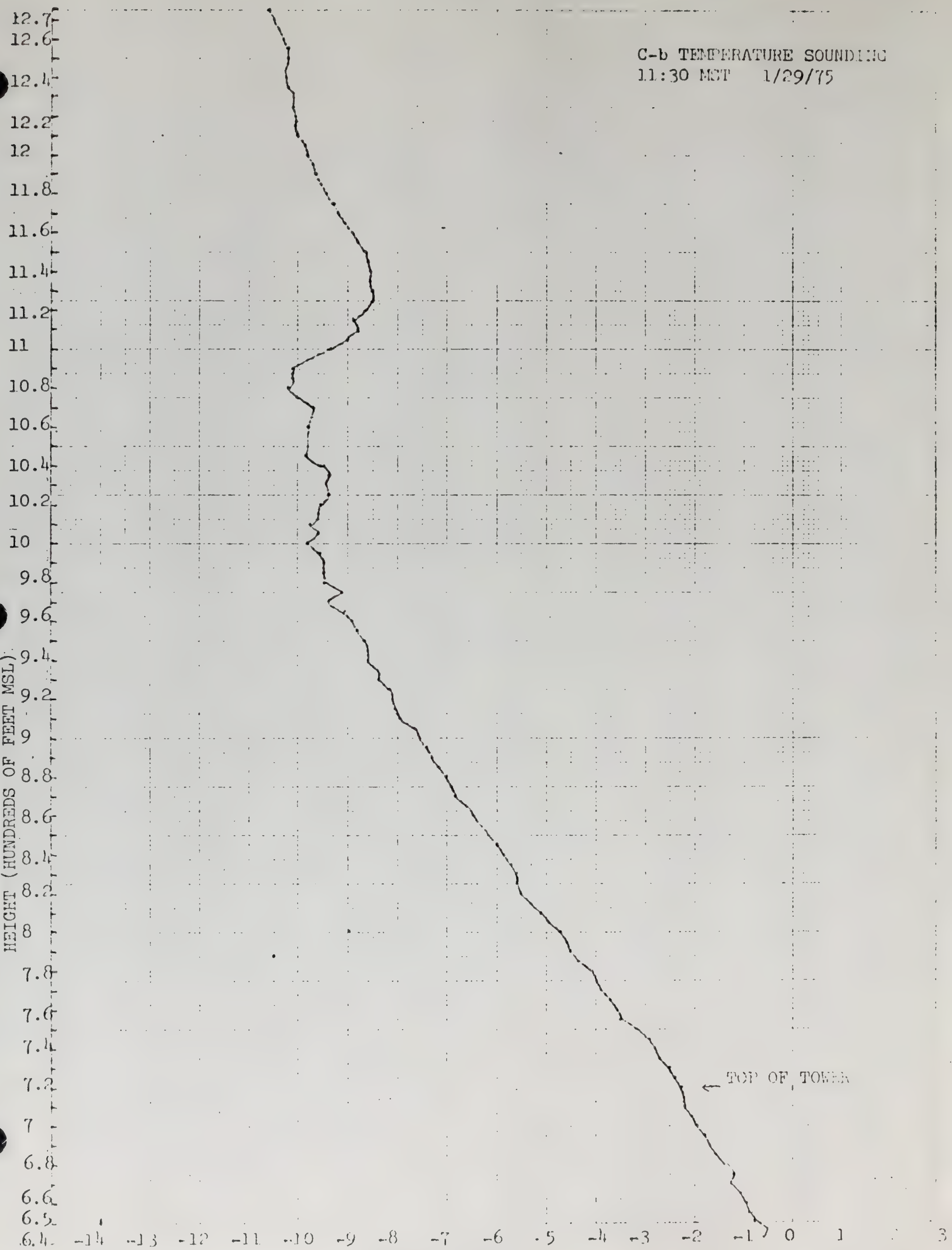
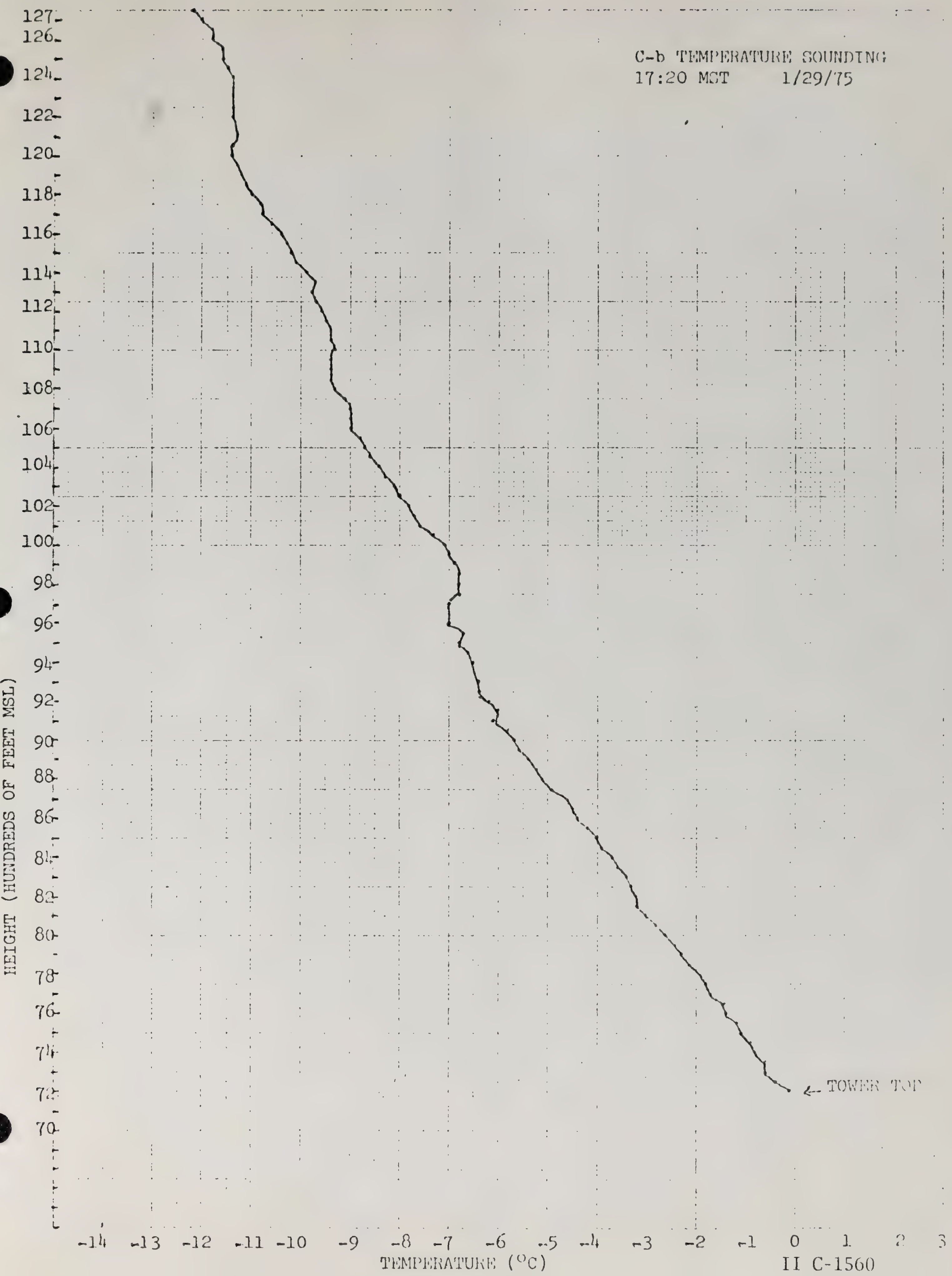

C-b TEMPERATURE SOUNDING
11:30 MST 1/29/75
HEIGHT (HUNDREDS OF FEET MSL)
12.7
12.6
12.4
12.2
12
11.8
11.6
11.4
11.2
11
10.8
10.6
10.4
10.2
10
9.8
9.6
9.4
9.2
9
8.8
8.6
8.4
8.2
8
7.8
7.6
7.4
7.2
7
6.8
6.6
6.5
6.4
-14
-13
-12
-11
-10
-9
-8
-7
-6
-5
-4
-3
-2
-1
0
1
2
3
TOP OF TOWER
TEMPERATURE (°C)

FIG 24



II C-1560

FIG. 25

TRACT C-b TEMPERATURE SOUNDING
05:25 1/29/75
SPIRAL DOWN FROM 13,000 FT. MSL

ELEV (1000')	TEMP (°C)	ELEV (1000')	TEMP (°C)	ELEV (1000')	TEMP (°C)
13,000	-14.4	11.75	-11.8	10.5	-9.1
12.95		11.7	-11.7	10.45	-9.6
12.9	-14.5	11.65	-11.5	10.4	-9.7
12.85		11.6	-11.3	10.35	-9.2
12.8	-14.3	11.55	-11.2	10.3	-8.5
12.75	-14.15	11.5	-11.0	10.25	-8.4
12.7	-14.05	11.45	-10.9	10.2	-10.1
12.65	-13.9	11.4	-10.8	10.15	- 9.95
12.6	-13.9	11.35	-10.75	10.1	- 9.6
12.55	-13.9	11.3	-10.6	10.05	- 9.25
12.5	-13.8	11.25	-10.45	10,000	- 9.3
12.45	-13.6	11.2	-10.4	9.95	-10.1
12.4	-13.55	11.15	-10.1	9.9	-10.4
12.35	-13.50	11.1	- 9.9	9.85	-10.4
12.3	-13.3	11.05	- 9.75	9.8	-10.45
12.25	-13.05	11,000	- 9.6	9.75	-10.3
12.2	-12.9	10.95	- 9.4	9.7	-10.2
12.15	-12.8	10.9	- 9.2	9.65	-10.15
12.1	-12.7	10.85	- 9.2	9.6	-10.0
12.05	-12.5	10.8	- 9.1	9.55	- 9.9
12,000	-12.5	10.75	- 9.1	9.5	- 9.8
11.95	-12.35	10.7	- 9.1	9.45	
11.9	-12.2	10.65	- 9.05	9.4	- 9.75
11.85	-12.05	10.6	- 9.1	9.35	- 9.6
11.8	-11.9	10.55	-8.8	9.3	- 9.7

FIG. 25 cont.

9.25	-9.9
9.2	-9.9
9.15	-9.75
9.1	-9.7
9.05	-9.55
9,000	-9.6
8.95	
8.9	-9.65
8.85	
8.8	
8.75	
8.7	-9.4
8.65	-9.2
8.6	-9.2
8.55	-9.15
8.5	-8.95
8.45	-8.9
8.4	-8.85
8.35	-8.95
8.3	-8.95
8.25	-8.85
8.2	-8.95
8.15	
8.1	-8.8
8.05	-8.8
8,000	-8.8
7.95	-8.8
7.9	-8.5

FIG. 26

TRACT C-b TEMPERATURE SOUNDING

08:20 1/29/75
SPIRAL DOWN FROM 13.000

ELEV (1000')	TEMP (°C)
13	-11.2
	-11.2
12.9	-11.2
	-11.1
12.8	-11.0
	-10.9
12.7	-10.85
	-10.8
12.6	-10.8
	-10.8
12.5	-10.9
	-11.0
12.4	-11.0
12.35	-11.1
12.3	-11.0
	-11.1
12.2	-10.95
	-10.85
12.1	-10.8
	-10.7
12	-10.65
	-10.55
11.9	-10.4
	-10.35

ELEV (1000')	TEMP (°C)
11.8	-10.15
	-10.1
11.7	-10.0
	- 9.95
11.6	- 9.85
	- 9.8
11.5	- 9.7
	- 9.6
11.4	- 9.6
	- 9.5
11.3	- 9.5
	- 9.5
11.2	- 9.65
11.1	- 9.7
11.05	- 9.85
11.0	- 9.85
	- 9.7
10.9	- 9.5
	- 9.35
10.8	- 9.25
	- 9.3

ELEV (1000')	TEMP (°C)
10.7	-9.3
	-9.2
10.6	-9.0
	-9.0
10.5	-8.9
	-9.0
10.4	-9.3
	-9.3
10.3	-9.25
	-9.3
10.2	-9.3
	-9.15
10.1	-9.2
	-9.25
10	-9.15
	-9.1
9.9	-9.1
	-9.2
9.8	-9.2
	-9.2
9.7	-9.1
	-9.0
9.6	-9.2
	-9.7

Fig. 26 cont.

9.5	-9.6
	-9.6
9.4	-9.45
	-9.55
9.3	-9.4
	-9.4
9.2	-9.35
	-9.3
9.1	-9.3
	-9.6
9	-9.55
8.9	-9.25
	-9.35
8.8	-9.4
	-9.45
8.7	-9.2
	-9.2
8.6	-9.2
	-9.2
8.5	-9.05
	-9.2
8.4	-9.5
	-9.1
8.3	-8.8
	-8.80
8.2	-8.8
	-8.90
8.1	-8.95
	-9.2
8.0	-9.05
7.9	-8.5
	-8.5
7.8	-8.8
	-9.2
7.7	-9.1
	-9.0
7.6	-8.80
7.5	-8.35
	-8.35
7.4	-8.45
	-8.3
7.3	-8.1
	-7.75
7.2 (tower top)	-7.75
7.1	-7.6
	-7.75
7.0	-8.0
	-8.4
6.9	-9.2
	-10.0
6.8	-11.9
	-12.5
6.7	-13.4
	-13.8
6.6	-15.3
6.5	-17.1
	-19.6
6.4	-20.45
	-20.35
6.3	-20.2

FIG. 27

TRACT C-b TEMPERATURE SOUNDING
11·30 1/29/75
SPIRAL DOWN FROM 13,000 FT. MSL

ELEV (1000')	TEMP (°C)	ELEV (1000')	TEMP (°C)	ELEV (1000')	TEMP (°C)
13	-11.3	11.8	-9.45	10.6	-9.8
12.95			-9.3		
12.9	-11.2	11.7	-9.2	10.5	
	-11.0		-9.05		-9.85
12.8	-10.8	11.6	-8.9	10.4	-9.55
	-10.6		-8.8		-9.4
12.7	-10.5	11.5	-8.65	10.3	-9.45
	-10.4		-8.6		-9.4
12.6	-10.3	11.4	-8.55	10.2	-9.55
	-10.2		-8.55		-9.6
12.5	-10.2	11.3	-8.5	10.1	-9.75
	-10.25		-8.5		-9.6
12.4	-10.25	11.2	-8.65	10.0	-9.8
	-10.2		-8.9		-9.55
12.3	-10.1	11.1	-8.8	9.9	-9.5
	-10.1		-9.00		-9.5
12.2	-10.05	11.0	-9.35	9.8	-9.5
	-10.05				-9.1
12.1	-10.0	10.9	-10.1	9.7	-9.4
	-9.85		-10.1		-9.05
12	-9.8	10.8	-10.2	9.6	-8.9
	-9.7		-10.0		-8.8
11.9	-9.65	10.7	- 9.7	9.5	-8.65
	-9.55				-8.6

9.4	-8.6	8	-4.7	6.6	-.95
	-8.4		-4.6		-.9
9.3	-8.4	7.9	-4.5	6.5	-.8
	-8.15		-4.35		-.5
9.2	-8.1	7.8	-4.05	6.4	-.6
	-8.05				
9.1	-7.95	7.7	-3.9		
	-7.65		-3.7		
9	-7.55	7.6	-3.55		
	-7.4		-3.5		
8.9	-7.3	7.5	-3.15		
	-7.15		-2.9		
8.8	-7.0	7.4	-2.8		
	-6.9		-2.7		
8.7	-6.85	7.3	-2.5		
	-6.6		-2.4		
8.6	-6.45	7.2 (tower top)	-2.25		
8.5		7.1	-2.2		
	-6.0		-2.05		
8.4	-5.85	7.0	-1.95		
	-5.7		-1.8		
8.3	-5.6	6.9	-1.7		
	-5.6		-1.55		
8.2	-5.5	6.8	-1.4		
	-5.3		-1.2		
8.1	-5.1	6.7	-1.25		
	-4.95		-1.05		

FIG, 28

TRACT C-b TEMPERATURE SOUNDING
17:20 1/29/75
SPIRAL UP TO 13,000 FT.

ELEVATION (1000 FT)	TEMP (°C)	ELEVATION (1000 FT)	TEMP (°C)	ELEVATION (1000 FT)	TEMP (°C)
7.2	--.1	8.5	-4.0	9.7	-7.0
	- .4		-4.2		-6.8
7.3	- .6	8.6	-4.4	9.8	-6.8
	- .6		-4.5		-6.8
7.4	- .8	8.7	-4.6	9.9	-6.9
	- .9		-4.9		-7.0
7.5	-1.1	8.8	-5.1	10.	-7.1
	-1.2		-5.2		-7.3
7.6	-1.4	8.9	-5.4	10.1	-7.6
	-1.4		-5.6		-7.7
7.7	-1.7	9.	-5.7	10.2	-7.8
	-1.8		-5.8		-8.0
7.8	-1.9	9.1	-6.1	10.3	-8.1
	-2.1		-6.0		-8.3
7.9	-2.3	9.2	-6.2	10.4	-8.4
	-2.4		-6.4		-8.6
8	-2.6	9.3	-6.4	10.5	-8.7
	-2.8		MSG		-8.8
8.1	-3.0	9.4	-6.5	10.6	-8.9
	-3.2		-6.6		-9.0
8.2	-3.2	9.5	-6.8	10.7	-9.0
	-3.3		-6.7		-9.1
8.3	-3.4	9.6	-7.0	10.8	-9.3
	-3.6		MSG		-9.4
8.4	-3.7				
	-3.9				

FIG. 28 cont.

ELEVATION (1000 FT)	TEMP (°C)
10.9	-9.4
	-9.4
11	-9.3
	-9.4
11.1	-9.4
	-9.5
11.2	-9.6
	-9.7
11.3	-9.8
	-9.7
11.4	-9.9
	-10.1
11.5	-10.2
	-10.3
11.6	-10.4
	-10.6
11.7	-10.8
	-10.8
11.8	-11.0
	-11.1
11.9	-11.2
	-11.3
12	-11.4
	-11.4
12.1	-11.3
	MSG
12.2	-11.4
	-11.4
12.3	-11.4
	-11.4
12.4	-11.4
	-11.5
12.5	-11.6
	-11.6
12.6	-11.8
	-11.8
12.7	-12.0
	-12.2
12.8	-12.0
	MSG
12.9	-12.0
	MSG
13	-12.0

FIG.29

TRACT C-b PILOT BALLOON SOUNDING
05:02 1/29/75

(MIN) TIME	(DEG) AZIMUTH	(DEG) ELEVATION	(FT) X	(FT) Y	(FT) Z	(DEG) HEADING	(MPH) VELOCITY
0	0	0	0	0	0	307	8.97
.5	307.2	37.2	-315	239		349	10.39
1	329.9	37.0	-399	689		001	12.64
1.5	342.7	32.6	-388	1246		16	16.58
2	354.4	31.5	-191	1949		31	17.2
2.5	4.3	29.9	195	2601		19	20.82
3	8.2	27.2	500	3467		20	28.51
3.5	11.3	23.9	929	4647		28	33.28
4	15.3	21.5	1624	5937		32	27.86
4.5	18.1	20.2	2280	6975		37	34.98
5	21.3	18.8	3201	8210		41	33.58
5.5	24.1	17.9	4172	9326		42	36.87
6	26.5	17.0	5254	10538		52	32.51
6.5	29.2	16.6	6382	11420		75	37.07
7	33.9	16.4	7949	11844		57	29.84
7.5	35.8	16.2	9060	12562		71	28.29
8	38.3	16.2	10240	12966		57	30.23
8.5	39.7	16	11361	13684		63	28.73
9	41.2	15.9	12487	14263		65	25.93
9.5	42.5	15.9	13518	14753		72	30.82
10	44.3	15.8	14809	15175		60	32.08
10.5	45.3	15.6	16038	15871		60	28.98
11	46.1	15.5	17148	16502			
11.5	48.2	14.5					

FIG. 30

TRACT C-b PILOT BALLOON SOUNDING
08:02 1/29/75

(MIN) TIME	(DEG) AZIMUTH	(DEG) ELEVATION	(FT) X	(FT) Y	(FT) Z	(DEG) HEADING	(MPH) VELOCITY
0	0	0	0		0	326	8.90
.5	325.9	37.41	-220	325		354	13.19
1	342.90	32.42	-278	903		9	18.68
1.5	355.23	27.61	-143	1715		17	20.15
2	2.48	25.05	111	2565		23	21.97
2.5	8.02	23.25	487	3247		26	20.36
3.0	11.73	22.47	885	4261		28	25.46
3.5	15.10	21.12	1416	5249		32	33.05
4.0	18.68	19.33	2191	6481		39	33.80
4.5	22.35	18.12	3137	7631		35	37.79
5	24.52	16.89	4100	8989		39	37.97
5.5	26.58	16.00	5149	10292		41	39.97
6	28.45	15.23	6299	11625		52	38.07
6.5	31.09	14.79	7628	12650		54	39.27
7	33.42	14.38	9023	13673		66	45.97
7.5	36.90	13.95	10877	14487		44	42.53
8	37.52	13.51	12167	15845		63	40.77
8.5	39.60	13.28	13773	16649		66	40.01
9	41.51	13.10	15379	17377		68	34.88
9.5	43.10	13.05	16803	17956		68	47.65
10	44.98	12.75	18743	18756		57	47.82
10.5	45.83	12.43	20501	19916		65	52.77
11	47.26	12.1	22610	20894			
11.5							

FIG.31

TRACT C-b PILOT BALLOON SOUNDING
11:00 1/29/75

(MIN) TIME	(DEG) AZIMUTH	(DEG) ELEVATION	(FT) X	(FT) Y	(FT) Z	(DEG) HEADING	(MPH) VELOCITY
0	0	0	0	0		336	6.93
.5	336.0	44.5	-124	279		13	8.04
1	356.2	43.85	- 41	623		11	18.65
1.5	4.43	32.1	111	1430		16	27.01
2	9.63	24.68	437	2575		7	33.95
2.5	8.59	20.07	613	4080		13	22.18
3	9.48	19.51	837	5011		21	21.18
3.5	11.29	19.30	1174	5881		20	38.17
4	13.19	17.39	1749	7461		24	39.77
4.5	15.13	16.04	2451	9086		30	41.93
5	17.52	15.01	3368	10669		38	38.69
5.5	20.22	14.46	4423	12008		42	32.75
6	22.42	14.28	5394	13075		43	30.66
6.5	24.22	14.20	6323	14056		45	37.59
7	26.20	13.90	7493	15228		49	42.16
7.5	28.38	13.53	8888	16453		49	53.42
8	30.61	12.92	10654	18008		51	58.28
8.5	32.78	12.32	12643	19632		63	64.67
9	35.98	11.80	15186	20917		43	65.36
9.5	36.68	11.23	17149	23024		54	66.29
10	38.23	10.78	19500	24754		54	66.88
10.5	39.55	10.39	21878	26494		66	76.19
11	41.85	10.01	24947	27853		40	79.26
11.5	41.68	-9.58	27185	30533			

FIG. 32

TRACT C-b PILOT BALLOON SOUNDING
17:10 1/29/75

(MIN) TIME	(DEG) AZIMUTH	(DEG) ELEVATION	(FT) X	(FT) Y	(FT) Z	(DEG) HEADING	(MPH) VELOCITY
0	0	0				56	3.85
.5	55.5	60.5	140	96		47	2.25
1	52.34	65.92	212	164		325	2.15
1.5	33.24	72.19	158	242		345	3.43
2	17.12	71.32	119	388		35	6.91
2.5	25.01	64.95	296	635		27	10.63
3	25.92	57.0	511	1051		32	16.25
3.5	28.32	48.13	893	1657		34	17.28
4	29.84	42.26	1314	2291		35	18.51
4.5	30.95	38.01	1776	2962		29	32.20
5	30.34	31.62	2461	4205		32	40.04
5.5	30.72	26.44	3390	5705		33	36.08
6	31.19	23.64	4259	7035		32	47.97
6.5	31.4	20.67	5385	8823		37	35.03
7	32.15	19.48	6318	10052			

FIGURE 33

ANALYTICAL DETERMINATIONS OF VOLATILE TRACE METALS AND SULFUR DIOXIDE SAMPLED AT THE C-b TRACT

Metal	Analytical Basis	Total Volume of Air Sampled (liters)++	PPB (v/v)
Arsine	*	187.44	0.00 (3.1)$^{@}$
Selenium**	*	249.99	0.00 (0.10)$^{@}$
Mercury÷	*	109,334.49	0.00 (0.012)$^{@}$
Sulfur Dioxide	Airborne SO_2 was trapped in the tetrachloromercurate (II) solution to produce disulfito complex. Color was developed by adding solutions of formaldeyde and acid-bleached pararosaniline to the complex. Intensity of colors was measured spectrophotometrically.	562.32	0.00

* Analytical bases for arsine, selenium and mercury are given in Laboratory Data Letter 74-134, December 4, 1974.

** Concentration expressed as selenium dioxide.

÷ Analyzed by Commercial Testing Laboratories, Denver, Colorado.

++ Measured volumes were corrected for BP and temperature.

@ The numbers in parenthesis are concentrations of these metals measured and reported in Laboratory Data Letter 74-134, December 4, 1974.

FIGURE 34

SIZE DISTRIBUTION OF AIRBORNE PARTICULATE MATTER IN THE RESPIRABLE RANGES AT THE C-b TRACT

Sampling Time = 21 hours and 15 minutes

Total Particulate Matter Collected = 15.1 mg

Size Range (microns)*	Concentrations ($\mu g/m^3$)
7.0 - Above	1.77
3.3 - 7.0	1.89
2.0 - 3.3	6.62
1.1 - 2.0	2.13
0.01 - 1.1	5.44**

* Aerodynamic diameter of the particulate matter.

** Although this represents particulate matter of 0.01 - 1.1 microns aerodynamic diameter collected on the back-up filter (8"x10"), at least two soot particles of much larger diameters were observed on the filter. This may have happened due to "particle bouncing phenomenon" -- a common occurrence in almost all particle sizers.

FIG. 36

SLOPE OF TEMPERATURE VS ALTITUDE
(°C/100M) 1/29/75

ELEVATION (FT ABOVE SL)	HEIGHT ABOVE SURFACE	0525 MST	0820 MST	1130 MST	1720 MST
6970	0		+3.6 (F)	- .82 (D)	-.98 (D)
7170	200		- .46 (E)	- .82 (D)	-.98 (D)
7370	400		- .30 (E)	- .82 (D)	-.98 (D)
7570	600		-1.15 (D)	-1.05 (D)	-.98 (D)
7770	800		- .131 (E)	- .95 (D)	-.98 (D)
7970	1000	-.0491 (E)	- .131 (E)	- .95 (D	-.98 (D)
8170	1200	-.0491 (E)	- .131 (E)	- .92 (D)	-.98 (D)
8370	1400	-.0491 (E)	- .131 (E)	- .85 (D)	-.98 (D)
8570	1600	-.426 (E)	- .131 (E)	- .95 (D)	-.98 (D)
8770	1800	-.426 (E)	- .131 (E)	- .85 (D)	-.98 (D)
8970	2000	-.148 (E)	- .131 (E)	- .85 (D)	-.89 (D)
9170	2200	-.148 (E)	- .07 (E)	- .75 (D)	-.89 (D)
9370	2400	-.141 (E)	-0.1 (E)	- .62 (D)	-.46 (E)
9570	2600	-.141 (E)	+ .30 (E)	- .62 (D)	-.07 (E)
9770	2800	-.524 (D)	+ .03 (E)	- .46 (E)	+.10 (E)
9970	3000	+4.92 (G)	- .13 (E)	- .07 (E)	-.72 (D)

NOTE: STABILITY CLASS	dT/dz (°C/100M)
A	<-1.9
B	-1.9 to -1.7
C	-1.7 to -1.5
D	-1.5 to -0.5
E	-0.5 to 1.5
F	1.5 to 4.0
G	> 4.0

FIG. 37

TEMPERATURE - ALTITUDE AT MET. TOWER VS. A/C SOUNDINGS

TIME (MST)	TEMPERATURE (°F) @ ALTITUDES				ΔT 100'-30' CALC	ΔT 200'-30' CALC	ΔT (HUNDRETHS)		$\Delta T/\Delta Z$ (°C/100m) USING DT2	PASQUILL STABILITY CLASS	STABILITY CLASS FROM SOUNDING
	8'	30'	100'	200'			100'-30'	200'-30'			
Measured→	TMP1	TMP2	TMP3	TMP4			DT1	DT2			
0525	11	12	13	14	+1	+2	-399	371	3.98	F	-
0820	14 (18.2)	15 (18.0)	15 (18.3)	15 (18.0)	0	0	-399	127	1.36	E	E
1130	26 (28.5)	27 (28.4)	25 (28.1)	25 (27.9)	-2	-2	-399	-76	-0.82	D	D
1600	29	31	29	29 (31.8@1725 MST)	-2	-2	-399	-72	-0.77	D	D

NOTE: 1. Obviously DT1 is in error

2. ΔT_{Calc} (200'-30') ≠ DT2/100 presumably because of roundoff

3. ( ) = readings from aircraft, indicating approximately +3°F bias for the aircraft.

FIG. 38

EFFECTS OF ALTITUDE ON σ_θ (DEG)
AND STABILITY CLASS

TIME		8 FT		30 FT		100 FT		200 FT		STABILITY FROM T vs Z
		σ_θ^2	σ_θ	σ_θ^2	σ_θ	σ_θ^2	σ_θ	σ_θ^2	σ_θ	
0525	HV	176	13.3 (C)	92	9.6 (D)	28	5.3 (E)	486	22.1 (B)	(E)
	BV					54	7.3 (E)	89	9.4 (D)	
0820	HV	413	20.3 (B)	465	21.6 (B)	6	2.45 (F)	244	15.6 (C)	(F-E)
	BV					94	9.7 (D)	101	10.05 (D)	
1130	HV	226	15.1 (C)	532	23.1 (A)	286	16.9 (C)	236	15.4 (C)	(D)
	BV					188	13.7 (C)	185	13.6 (C)	
1600	HV	527	23.0 (A)	236	15.4 (C)	394	19.8 (B)	516	22.7 (B)	(D)
	BV					202	14.2 (C)	200	14.1 (C)	

NOTES: σ_θ^2 are 5 minute tabulated averages
HV= Horizontal Vane
BV= Horizontal component of Bivane; 30' level was inoperative for bivane
( ) = Stablility class for number above it.

FIG. 39

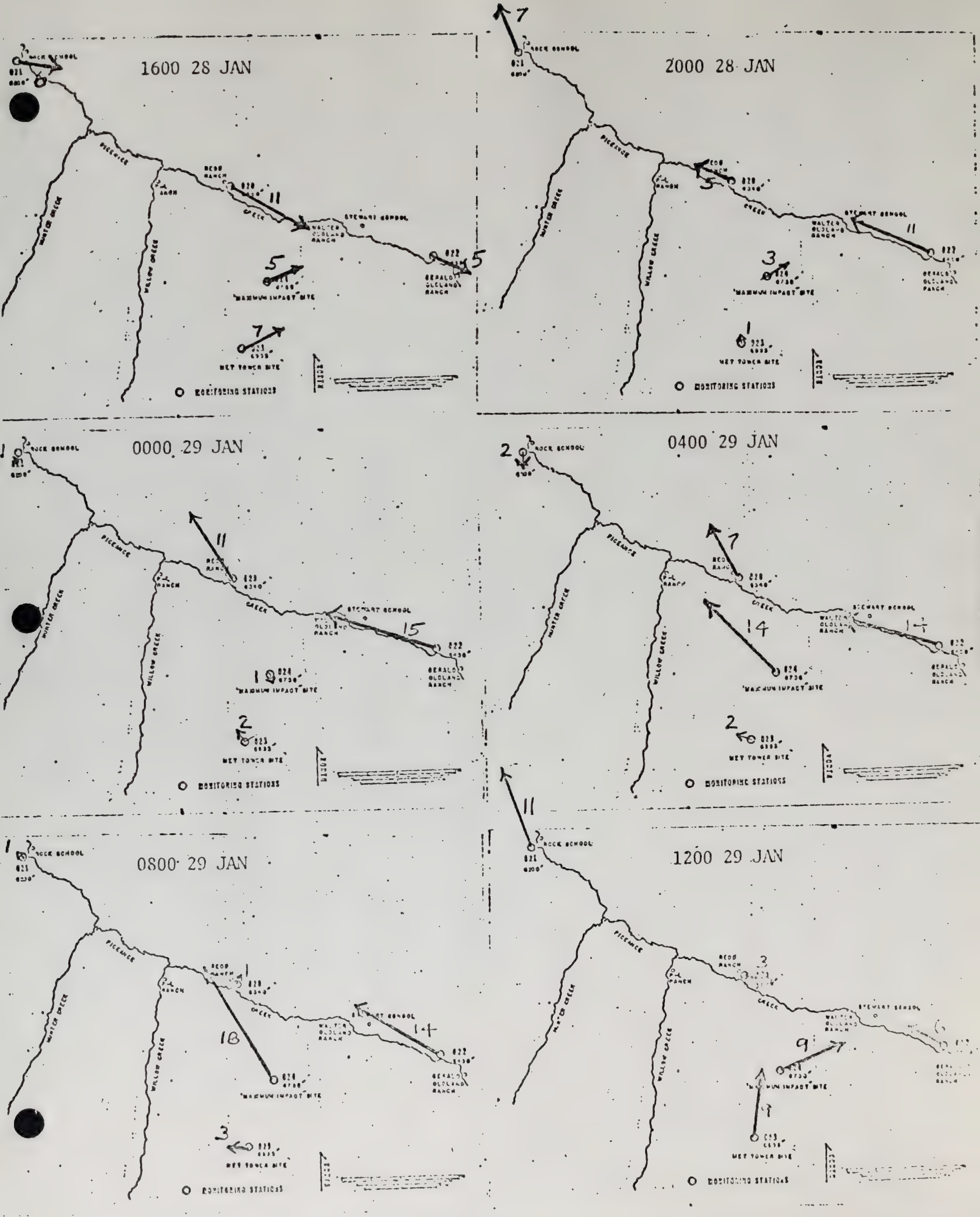
STABILITY CLASSIFICATION FROM WIND SPEED
30' AT MET TOWER
BEAUFORT WIND SPEED CLASSIFICATIONS

SPEED KNOTS	MPH	CLASSIFICATION*
<1	<1	G
1-3	1-3	F
4-6	4-7	E
7-10	8-12	D
11-16	13-18	C
17-21	19-24	B
>21	>24	A

10 M ABOVE GROUND

TIME (MST)	WIND SPEED @ 30' (MPH)	CLASS	CLASS FROM TEMP. VS ALT. SOUNDING
0525	6	E	E
0820	9	D	E
1130	11	D	D
1600	6	E	E

*Based on the assumption that these wind speed catagories equate to the Pasquill classifications.



1600 28 JAN
2000 28 JAN
0000 29 JAN
0400 29 JAN
0800 29 JAN
1200 29 JAN
ROCK SCHOOL
PICEANCE
CREEK
REED RANCH
WILLOW CREEK
STEWART SCHOOL
WALTER OLDLAND RANCH
GERALD OLDLAND RANCH
"MAXIMUM IMPACT" SITE
MET TOWER SITE
NORTH
O MONITORING STATIONS
11
5
5
7
7
5
11
3
1
11
15
1
2
2
7
14
14
2
1
1
18
14
3
11
3
6
9
9

FIG. 40 DIURNAL VARIATIONS IN WIND VELOCITY

FIG. 41

HORIZONTAL TEMPERATURE VARIATIONS IN PICEANCE CREEK

29 JANUARY 1975

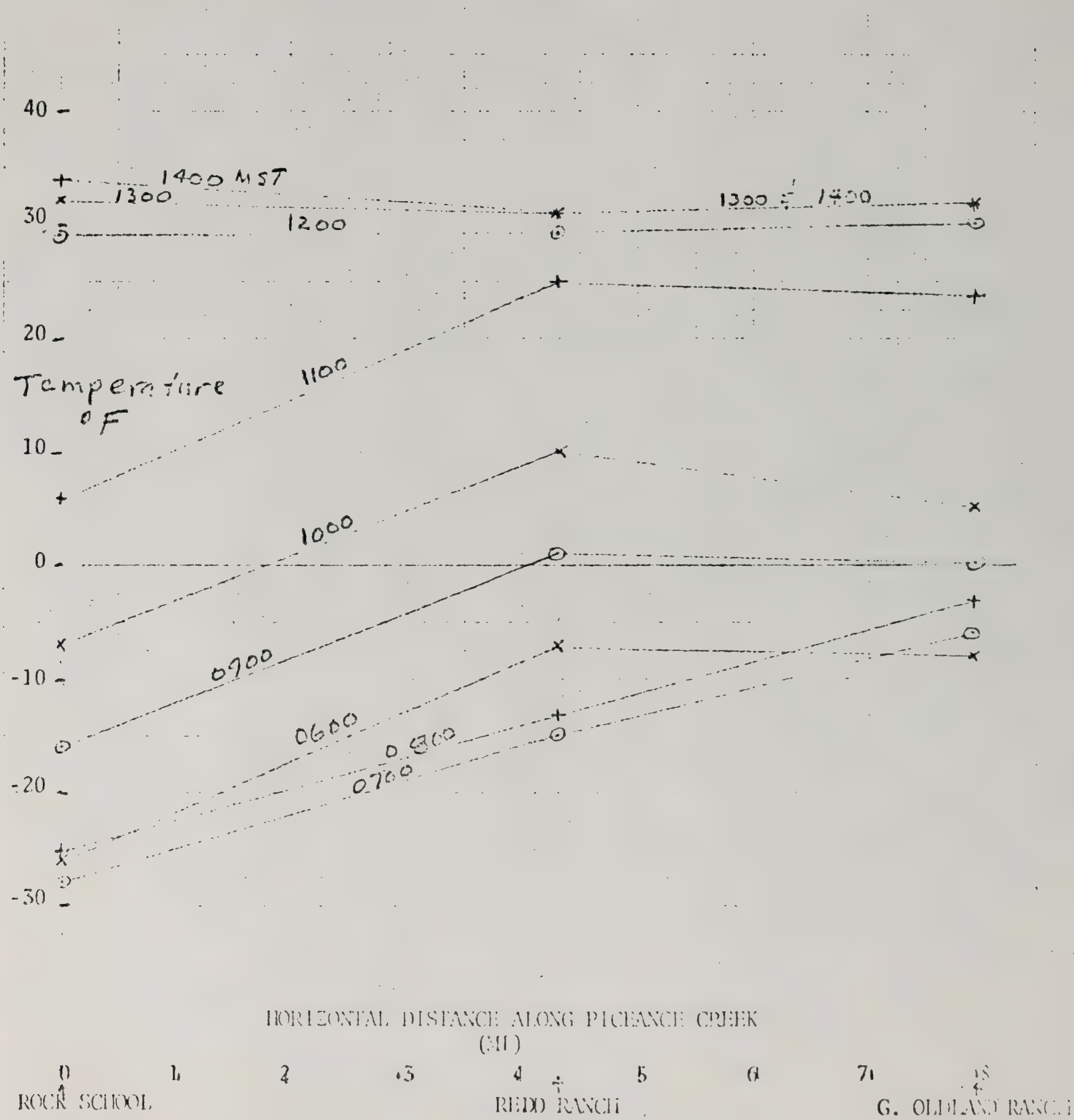
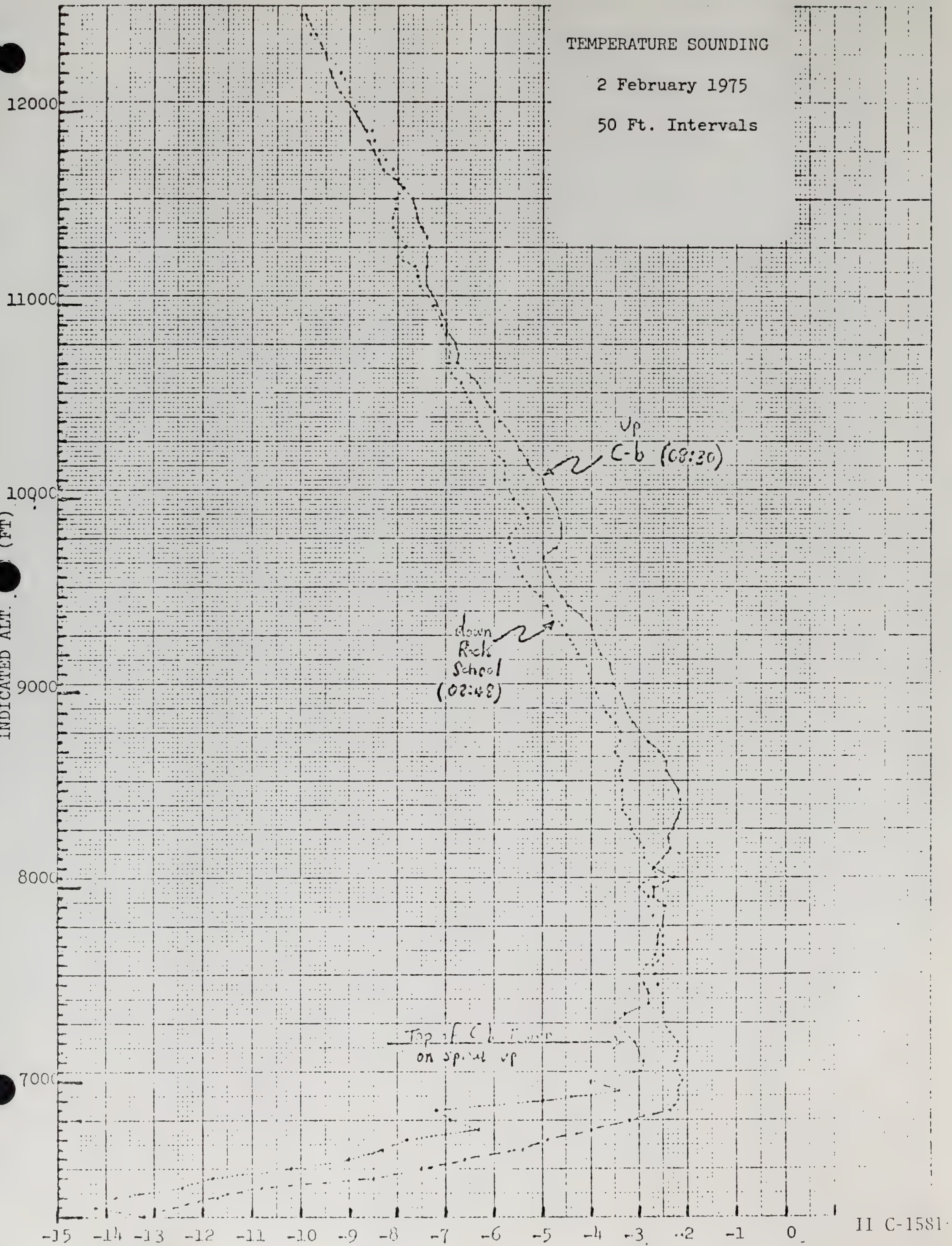


FIG. 44



TEMPERATURE SOUNDING

2 February 1975

50 Ft. Intervals

46 1512
K&E 10 X 10 TO THE CENTIMETER 18 X 25 CM. KEUFFEL & ESSER CO. MADE IN U.S.A.

AIR TEMPERATURE INVERSION CHARACTERISTICS
PICEANCE CREEK BASIN, WESTERN COLO.

REPORT # 1

Prepared for

ATLANTIC RICHFIELD CORP.
C-b OIL SHALE LEASE TRACT

March 12, 1975

by

William E. Marlatt
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3611 Richmond Drive
Fort Collins, Colo.

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AIR TEMPERATURE INVERSION CHARACTERISTICS
PICEANCE CREEK BASIN, WESTERN COLO.

I. INTRODUCTION

In order to answer questions about the climatology of air temperature inversions over the center of the Piceance Creek basin in the vicinity of the C-b tract, an acoustic radar (Aerovironment, Inc.) was installed near the weather tower and air quality station on the C-b tract on December 6, 1974. This instrument is designed to transmit a sound pulse vertically at 12 second intervals to measure the height of inversion layers. The maximum altitude of measurement is 750 meters above the instrument. The radar has been in operation on a nearly continuous basis since that date.

This report summarizes the acoustic radar measurements obtained between December 7, 1974 and February 22, 1975.

II. DATA ANALYSIS

Data reduction and analysis of the acoustic radar data have been more difficult for the C-b site than was experienced for either of two units operated at other sites by the author. In part, this has been the result of not having the facimile chart trace adjusted for maximum sensitivity. In addition, the echo is many times not well defined; often it is questionable whether the echo is of an inversion layer or a turbulent mixed layer. On several occasions the radar dish had an accumulation of snow which also made the record more difficult to interpret.

Air temperature inversions below 750 meters were recorded on 52 occasions during the 77 day interval between Dec. 7, 1974 and Feb. 22, 1975 (including 7 days missing data for some hours). Table I shows the number of inversion periods. their average duration and height above the surface. There were five occasions when a multiple layer inversion was noted.

Table I. Air Temperature Inversion Characteristics. C-b Tract near Meteorology Tower. Dec. 7, 1974 - Feb. 22, 1975.

	Dec.	Jan.	Feb.
Number of Inversions	16	22	14
Ave. Duration (hrs.)	18.5	15.2	15.3
Ave Height (meters)	225	280	288
# of days of measurements	25	30	22
# of days missing data	3	1	3

Table 2 shows the frequency of duration of inversion periods measured. From this table, it is determined that 80% of the periods lasted between 7 and 21 hours and that 46% of the inversions lasted more than 12 hours. The longest single period of air temperature inversion lasted from 1700 on Dec. 19 until 1200 on Dec. 21, a total of 43 hours.

Tables 3 and 4 summarize the times of onset and breakup of the air temperature inversions. From table 3, it may be seen that the most frequent time of onset was late afternoon with 84% of all inversions forming between 1300 and 2100 MST and 54% forming between 1600 and 1830 MST. The most frequent time of breakup was between 0700 and 1230 MST (72%) with 40% of all inversions dissipating between 0700 and 0930 MST.

Figure 1 shows a portion of the air temperature radar record for the period 2200 Dec. 7 and 0700 Dec. 8, 1974.

Table 2. Frequency Analysis of Air Temperature Inversion Duration. C-b Tract near Meteorology Tower. Dec. 7, 1974 - Feb. 22, 1975

Inversion Duration (hrs)	Dec.	Jan.	Feb.	Total
0-3	0	1	0	1
4-6	2	2	0	4
7-9	3	1	2	6
10-12	0	2	4	6
13-15	1	3	4	8
16-18	5	7	1	13
19-21	1	5	1	7
22-24	0	0	1	1
25-30	2	0	0	2
31-35	1	0	1	2
> 36	2	1	0	3

Table 3. Frequency Analysis of Time of Onset of Air Temperature Inversions. C-b Tract near Meteorology Tower. Dec. 7, 1974 - Feb. 22, 1975

Time Period (MST)	Dec.	Jan.	Feb.	Total
1300-1530	3	3	3	9
1600-1830	8	11	8	27
1900-2130	1	4	2	7
2200-0030	0	2	0	2
0100-0330	3	0	0	3
0400-0630	1	1	0	2
0700-0930	0	0	0	0
1000-1230	0	1	1	2

Table 4, Frequency Analysis of Time of Breakup of Air Temperature Inversions. C-b Tract near Meteorology Tower. Dec. 7, 1974 - Feb, 22, 1975

Time Period MST)	Dec.	Jan.	Feb.	Total
1300-1530	1	0	0	1
1600-1830	0	0	0	0
1900-2130	0	1	0	1
2200-0030	1	1	1	3
0100-0330	1	1	2	4
0400-0630	0	2	4	6
0700-0930	9	7	5	21
1000-1230	4	10	2	16

III. DISCUSSION

From the data collected at the intensive study period in late January, it wes found that, on that occasion, while there was a slight inversion noted at the C-b meteorology tower on the morning of January 29, it was diffucult to detect with certainty on the acoustic radar chart. Furthermore, it was difficult to understand why an air temperature inversion should persist at that location when the wind was blowing at an average velocity of around 8 - 12 mph. Comparison of the air temperature at the tower and at the air quality station at Rock School in the bottom of Piceance Creek valley indicated a 43^{o}F temperature inversion in the 780 feet elevation difference between the two stations. Aircraft measurements of the air temperature profile confirmed this extremely steep inversion and showed that the acoustic radar was at an elevation at or just above

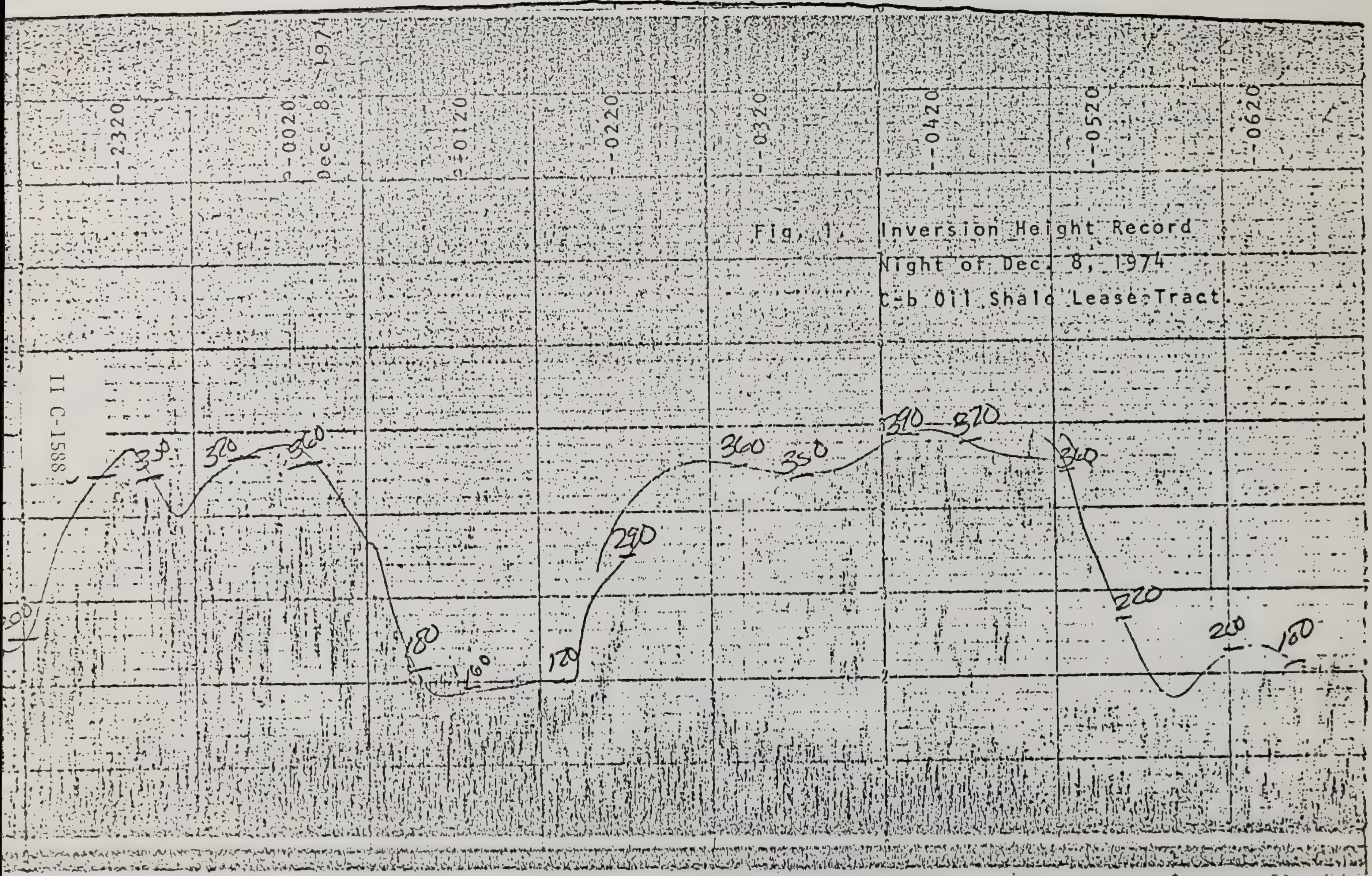

Fig. 1. Inversion Height Record
Night of Dec. 8, 1974
C-b Oil Shale Lease Tract

the inversion. It is recommended, therefore, that the acoustic radar presently located at the Dere' Cabin Ridge station on the Colony property be moved to the Rock School location as soon as weather permits.

A second acoustic radar was operated during the same period on the southern ridge of the Piceance Basin above Parachute Creek. A forthcoming report will include a detailed comparison of the measurements from the two locations. The following tables for the month of December are included here to provide a preliminary evaluation of the similarities and differences in the enversion characteristics measured at the two sites. The radar unit at the Dere' Cabin Ridge site measures to a maximum altitude of 500 meters and the data were reduced at hourly intervals only.

Table 5. Comparison of Air Temperature Inversion Characteristics at the C-b Tract and the Dere' Cabin Ridge Sites. Dec. 1974.

Characteristic	C-b	D.C.R.
Number of Inversions	16	23
Average Duration (hrs)	18.5	13
Average Height (meters)	225	198

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Number of Inversions	16	23
Average Duration (hrs)	18.5	13
Average Height (meters)	225	198

Table 6. Comparison of Air Temperature Inversion Duration and Frequency Statistics. C-b Tract and Dere' Cabin Ridge. Dec. 1974

Inversion Duration (hrs)	C-b	D.C.R.
0-3	0	1
4-6	2	6
7-9	3	3
10-12	0	4
13-15	1	3
16-18	5	1
19-21	1	3
22-24	0	1
25-30	2	0
31-35	0	1
36	2	1

Table 7. Comparison of Times of Onset and Dissipation of Air Temperature Inversions. C-b Tract and Dere' Cabin Ridge. Dec. 1974.

	C-b		D.C.R.	
Time Period (MST)	onset	breakup	onset	breakup
1300-1530	3	1	1	7
1600-1830	8	0	3	1
1900-2130	1	0	5	1
2200-0030	0	1	4	1
0100-0330	3	1	7	5
0400-0630	1	0	2	2
0700-0930	0	9	0	4
1000-1230	0	4	1	2

APPENDIX

TABULATION OF DATA

DECEMBER 1974

Start Date	Start Time MST	End Date	End Time MST	Number of Hours	Highest Level (meters)	Lowest Level (meters)	Average Level (meters)
12/7	1630	12/8	1230	20	440	150	306
12/8	1630	12/10	0930	41	360	50	211
*12/8	1900	12/8	2300	4	365	110	296
12/11	1500	12/12	0700	16	320	80	157
12/14	0130	12/14	0830	7	210	100	159
12/14	1530	12/15	0900	17.5	415	90	251
12/17	1830	12/18	0800	13.5	390	140	285
12/19	1700	12/21	1200	43	750	150	389
12/22	2100	12/23	0300	6	220	140	182
12/23	0530	12/23	1000	4.5	250	155	197
12/24	0200	12/24	0930	7.5	310	70	157
12/24	1300	12/25	1400	25	410	90	208
12/25	1600	12/26	0030	8.5	180	90	130
12/26	1700	12/27	1130	18.5	370	75	217
*12/27	0630	12/27	1130	5	570	440	537
12/27	1600	12/28	0900	17	570	230	366
12/28	1630	12/29	0930	17	390	80	264
*12/29	0730	12/29	1230	5	220	130	180
12/31	0200	1/1	0800	30	250	70	118

* Multiple Layer

JANUARY 1975

Start		End		Number of Hours	Highest Level (meters)	Lowest Level (meters)	Average Level (meters)
Date	Time MST	Date	Time MST				
1/2	1030	1/3	0730	21	200	80	121
1/3	1500	1/4	1000	19	460	100	297
*1/3	0530	1/3	1000	4.5	410	330	377
1/4	1600	1/5	0930	17.5	470	100	234
1/6	2200	1/7	1100	13	640	380	513
1/7	1830	1/8	0030	6.5	400	50	143
1/10	1630	1/11	1100	18.5	340	75	221
1/12	0030	1/12	0730	7.5	450	140	273
1/12	1500	1/13	1100	20	450	220	346
1/13	1600	1/14	1100	19	390	170	307
1/14	1730	1/16	0630	37	450	120	317
1/16	2030	1/17	1000	13.5	400	100	283
1/17	1530	1/18	1000	19	420	110	286
1/18	1700	1/19	0930	16.5	400	120	274
1/19	1600	1/20	0900	17	540	260	391
1/20	1600	1/21	0200	10	500	370	449
1/21	1700	1/22	1000	17	400	120	199
1/22	1600	1/23	1000	18	450	250	356
1/23	1700	1/24	0900	16	350	150	231
1/26	2000	1/27	1000	14	500	110	303
*1/26	2000	1/27	0330	7.5	750	450	656
1/28	1930	1/28	2030	1	450	250	367
1/29	0430	1/29	0900	4.5	400	300	370
1/31	2000	2/1	0600	10	240	60	137

* multiple layers

FEBRUARY 1975

Start Date	Start Time MST	End Date	End Time MST	Number of Hours	Highest Level (meters)	Lowest Level (meters)	Average Level (meters)
2/1	1100	2/2	1000	23	320	75	187
2/2	1930	2/3	1000	14.5	450	100	305
2/3	1630	2/4	0930	17	650	130	299
2/4	1700	2/5	0400	11	410	110	297
2/6	1730	2/7	0500	11	500	120	346
2/8	1430	2/9	0930	19	600	240	404
2/10	1500	2/11	0630	15.5	280	60	182
2/11	1630	2/12	0130	9	590	50	367
2/13	1530	2/15	0030	33	550	80	326
2/15	2030	2/16	0830	12	620	70	305
2/16	1800	2/17	0230	8.5	525	120	378
2/18	1800	2/19	0930	15.5	330	60	147
2/20	1800	2/21	0600	12	350	110	182
2/21	1830	2/22	0800	13	410	80	301